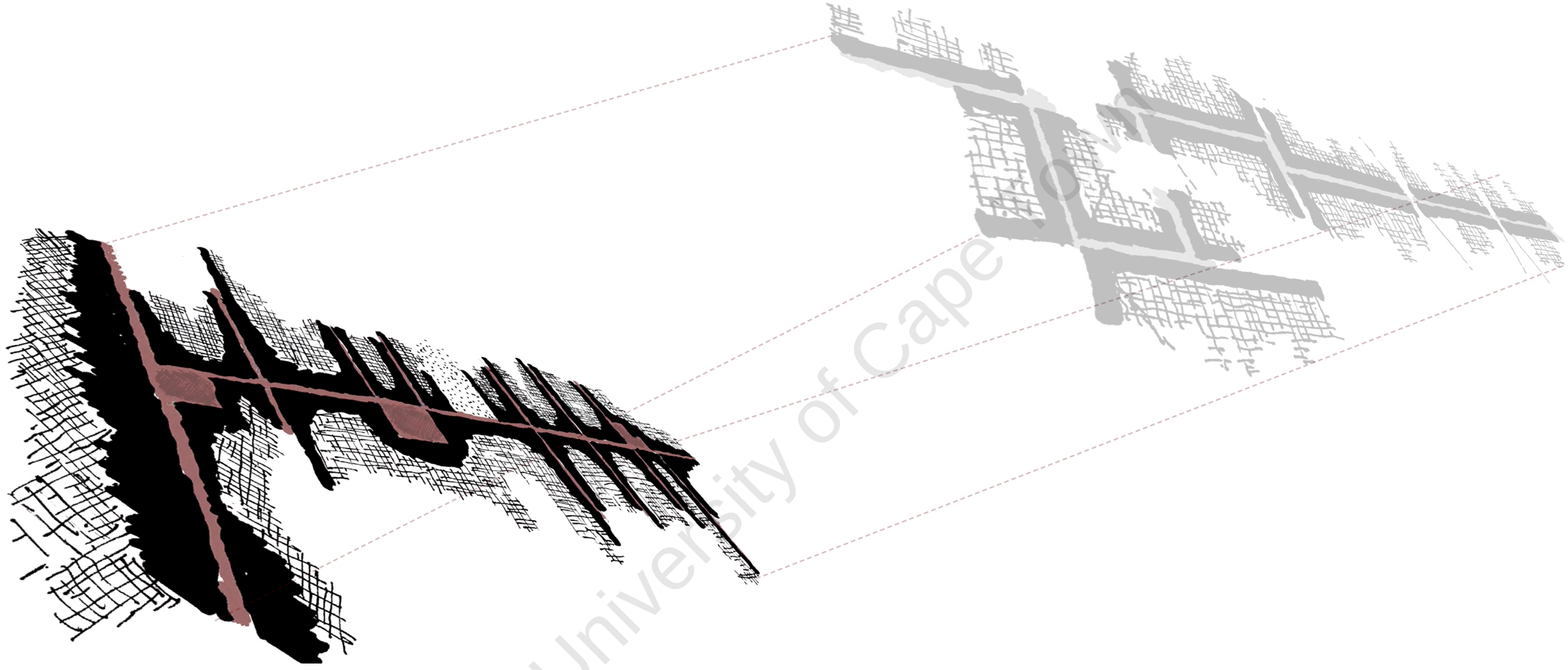
[URBAN] ANCHORING OF RETREAT ROAD

*The contribution of a **[transverse connector]** into an urban development corridor*



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Dissertation submitted as part fulfilment of the degree of

Masters of City Planning and Urban Design

in the School of Architecture, Planning and Geomatics
University of Cape Town

27th October 2009

Abstract

Abstract

This dissertation investigates the urban anchoring of Retreat Road in the Southern Suburbs as a potential transverse connector for the metropolitan urban corridor around Main Road linking Central Cape Town and the Southern Suburbs in the Western Cape of South Africa. Its close proximity to Main Road makes it into a potential transverse connector providing energy and life to that portion of the metropolitan urban corridor. Even though showing great promise as a possible localised activity strip, the development of Retreat Road seems to have been frozen in time. The awkward geometry of the connection of Retreat Road to Main Road is one of the main causes of this stagnation. To facilitate the flow of energy, this dissertation proposes the realignment of Retreat Road, thus giving birth to a New Retreat Road while at the same time keeping the Old Retreat Road. This new simple geometry also provides the possibility of creating a gateway for Retreat Road on Main Road.

Urban anchoring of Retreat Road is investigated through an urban design strategy of a properly structured public realm. Theory along the lines of Dynamic City, The Capital Web and Neo-Rationalism was very useful in understanding the incremental, catalytic and complex nature of urbanism and subsequently the notion of public anchoring. Various case studies and precedents, local ones as far as possible, were consulted with a view to understand the practical application of theory.

A significant conclusion drawn from this investigation is that a transverse connector is very crucial in aiming to achieve integration between an urban corridor and the surrounding tissue falling short of the corridor. Transverse connectors are usually associated with nodes or cores of high energy in a corridor. Usually, these cores situate themselves around or next to a transport interchange as an urban anchoring element.

[Urban] anchoring *of Retreat Road: The contribution of a* ***[transverse connector]*** *into an urban development corridor* | Sajjiv Ashvind Beetul | October 2009

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Acknowledgements

The completion of this dissertation has only been possible as a result of contributions from various sources. I wish to thank the following people for helping me in my achievements:

- My supervisor ***Henri Comrie*** for providing me with guidance (and introducing me to the idea of *coding*...).

- Prof. ***Lucien Le Grange*** for his guidance (and providing me with the motivation to finish on time...).

- ***Alastair Rendall*** (ARG Design); ***Khalied Jacobs*** (Jakupa architects and urban designers); ***Tarna Klitzner*** & ***Kathrin Krause*** (TKLA); NM & Associates; ***Roberta Gould-Pratt*** (previously at Urban Design Branch, City of Cape Town) – for making the relevant research material available to me; my friend ***Aarvin Jahajea*** for granting me access to his personal collection of travel pictures.

- ***Charlotte Chamberlain*** (Charlotte Chamberlain Architect) for the financial support and granting me leave as per the requirements of my studies.

- My mother ***Mala*** and my late father ***Nilcanth*** for their continuous support throughout my studies.

- My wife ***Laxmee*** for her continuous support, constant encouragement (especially in stressful times) and complete belief in me.

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Glossary of terms

Glossary of terms

Activity spine – it usually has a street as the main structuring element with mixed-used activity edges ranging from retail, commercial, offices to residential. Movement along such a spine is characterised by a stop-start nature, allowing a release of energy. An activity spine can be regarded as the main structuring element of an urban development corridor.

Flow of energy – it is generated through a flow of movement of pedestrians and vehicles involved in various activities in the urban fabric. Flow of energy and activities are two important and inter-dependent variables of an urban fabric.

Mobility spine – a backup system to an activity spine that caters for movement of a faster nature than that of an activity spine.

Morphology - the definition of morphology is twofold in the sense that it means the study of the forms of the elements that make up the urban tissue as well as how the forms of those elements change over time.

Private realm – a platform with the highest degree of controlled access, for instance a house or a private office.

Public realm – a platform that every member of the society has a right of access to, for expressing himself or herself freely either alone or in the presence of others. A public square or a public street forms part of the public realm.

Semi-public realm – a 'public' platform with some sort of unseen controlled access, for instance the steps leading into a shop.

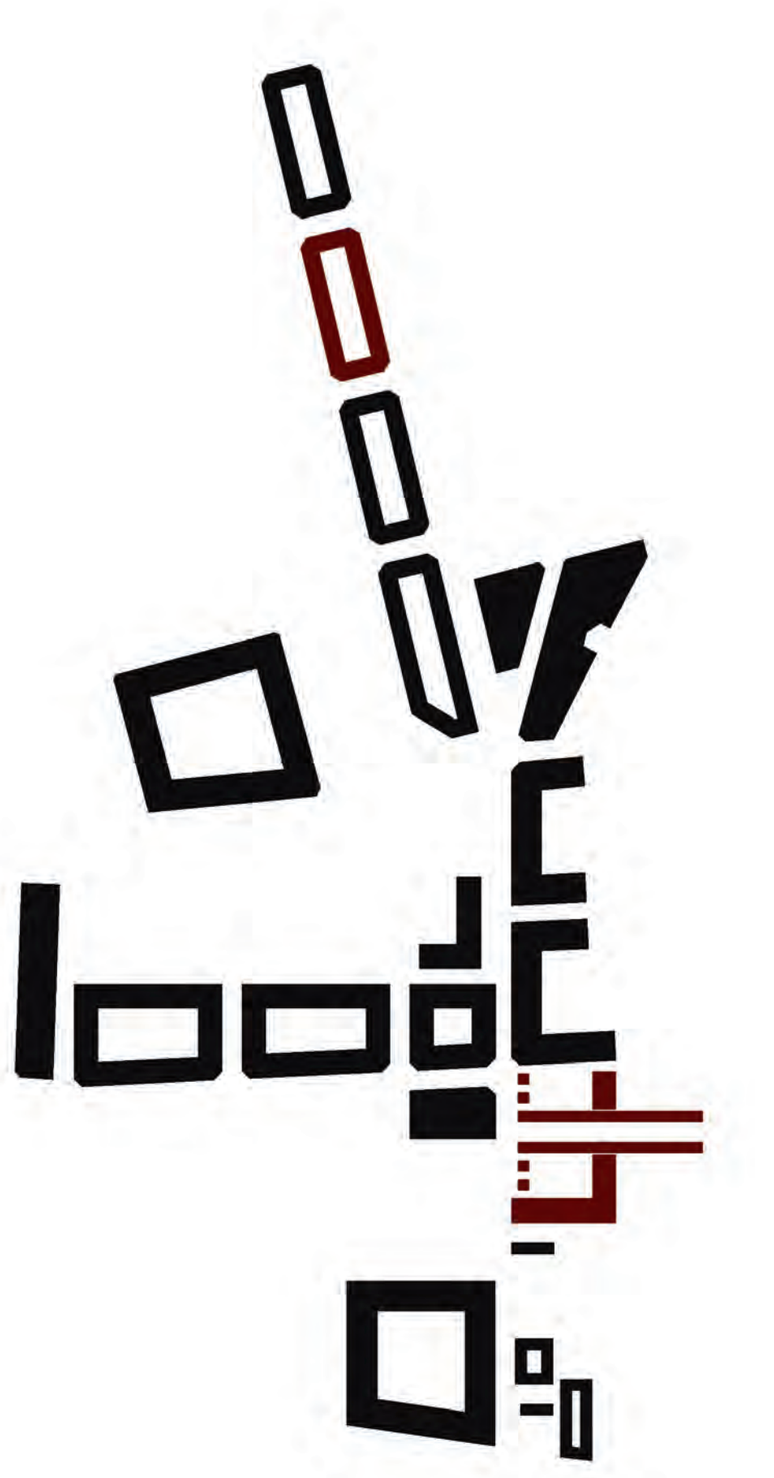
Semi-private realm – a 'less public' platform with controlled access, for instance a shop or the garden of a house.

Urban design coding – a set of controls aimed at guiding an architect to design a building within an urban design framework. It is a way of 'tying up the loose ends' of the various buildings within an urban design framework.

Daniel Burnham:

'... make no little plans for they have no magic to stir men's blood ...'.

(Legates, 2000: p 305)



[Urban] anchoring of Retreat Road

Chapter 1
Introduction

Chapter 1: Introduction

1.1 Introduction

In his *Essai sur l'Architecture* and his sketch of the primitive hut (Figure 1.01), Laugier described his belief of the origin, general principles and fundamental processes of architecture as man's basic needs driving him to look for a place to rest. First, man slept on the grassy banks of a river but the sun burnt him. He moved into the forest but the rain forced him to move into a cave to find better protection from the pouring rain. The darkness and dampness of the cave forced him back into open air to make a dwelling for him. The forest provided him with the materials: four solid members to use as uprights arranged in a square, four other members crosswise on top of the uprights and finally sloping branches on top to meet at a point to create the structure for the roof. He covered the latter with leaves to provide him with a dwelling for shelter and protection. (Delevoy, 1978: p 17)

Since then, humanity has come a long way in terms of the provision of a shelter. Humankind learnt how to make communities, initially, in the form of farming communities on the higher grounds of the valleys of the Tigris and Euphrates and moving down as the alluvial deposits were dried out around 5500 BC. During the Bronze Age, society villages were transformed into cities between 3500 and 3000 BC. (Morris, 1979: p 5)

Over the centuries, one of the most noticeable changes in the form of urbanisation has been the removal of the physical edge of a city – the city wall (Figures 1.02 & 1.03). Humankind has come a long way in terms of city-making and urbanisation, learning through the successes and failures of the various movements of Classicism, Renaissance, Modernism, Neo-Rationalism and Humanism, just to name a few. Yet, we are still at a stage of uncertainty when it comes to sustainable and efficient urbanisation and fighting the negative effects of the sprawling city. The form of cities has evolved from one of a compact city to a loose sprawling one with the urban edge continuously being redefined. There is a considerable amount of literature and talks of compaction of the city but ironically, the urban edge is always moved further and further away. And to add to it all, the global world is currently facing challenges in terms of depleting resources, famine, inaccessibility to water and adequate living conditions and lately a world crisis generated through economic recession.

One of the popular ways of achieving sustainable urbanisation and partial densification of a city, globally as well as locally, is through the use of a mechanism called urban development corridors. However, the successful conception and implementation of this mechanism is dependent on a broader system. In simple terms, a development corridor can be likened to the idea of a main system dependent on a series of feeder systems (Figure 1.04) – it is one of the main structuring and ordering systems of an urban fabric. In reality, it is a layered entity in which there is a hierarchy of systems – a series of intersecting transverse connectors that bring *life and feed energy* into the corridor. It can only operate efficiently and sustainably with the input of those transverse feeder connectors – hence this dissertation is an investigation of the validity and the positive contribution of those transverse connectors to the making of development corridor.

1.2 Objectives and limitations of investigation

1.2.1 Objectives of this investigation

This dissertation will be focussing primarily on the role of Retreat Road in Retreat and secondarily on the role of 5th Avenue in Grassy Park and Lotus River as a possible transverse connector into the urban development corridor along Main Road linking Central Cape Town and the Southern Suburbs in the Western Cape of South Africa (Figures 1.05 – 1.08). Currently, this part of the city is characterised by typical post-apartheid South African urban conditions and urbanisation strategies: fragmentation, crime and grime, run-down and continuously deteriorating conditions, poor quality and lack of urban spaces, disorientation and poor legibility of the urban fabric, introverted urban development in the form of predominantly shopping centres... Thus, this dissertation looks at the urban anchoring of the above-mentioned transverse

Figure 1.01 - Laugier's primitive hut (Source: Vidler, 1978: p 4)

Figure 1.02 - Erbil in north-east Iraq, containing the city within a wall (Source: Morris, 1979: p 9)

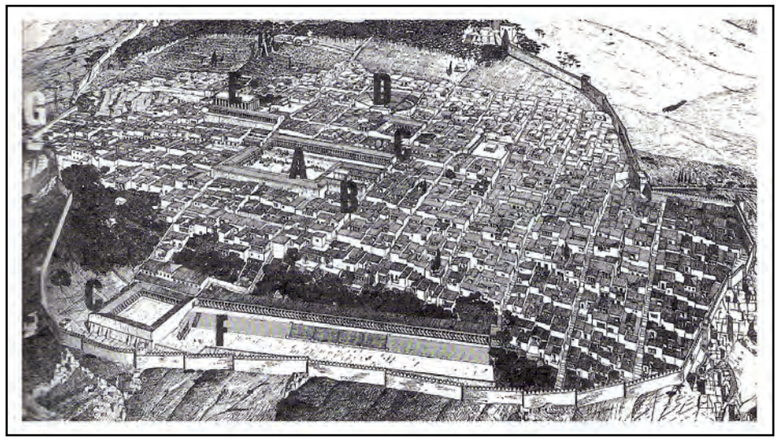


Figure 1.03 - Artist impression of Priene, city contained within a wall (Source: Morris, 1979: p 29) – Key: A – Agora, B – Temple of Zeus, C – Gymnasium, D – Amphitheatre / stadium, E – Temple of Athena, F – Stadium, G – main entrance into city

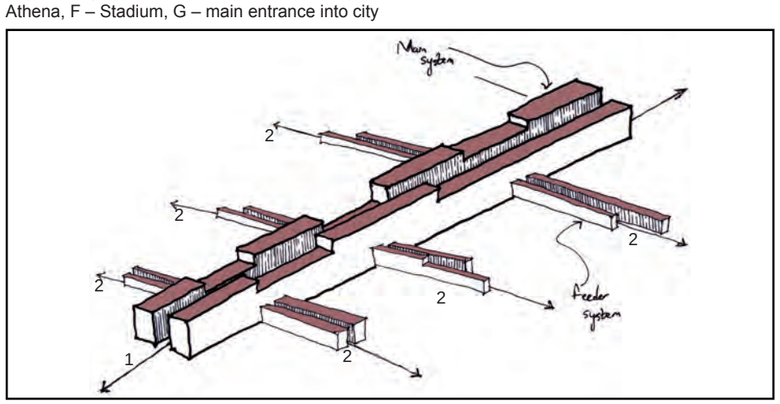


Figure 1.04 - An urban corridor development as the juxtaposition of a main system (1) and a series of feeder systems (2) (Author's sketch)

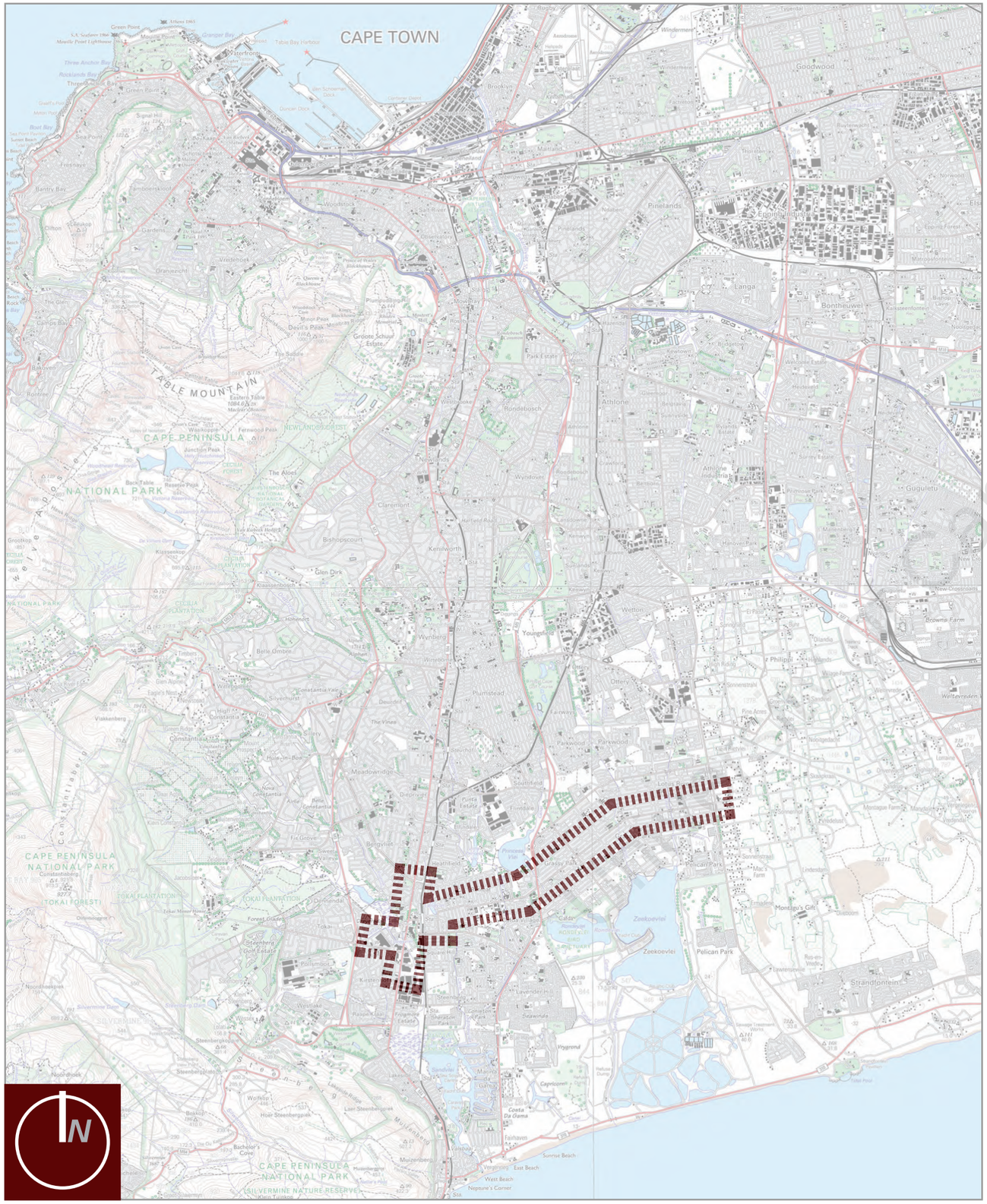


Figure 1.05 - Location of Retreat Road and 5th Avenue

Figure 1.06 - Retreat Road

Figure 1.07 - Grassy Park

Figure 1.08 - Lotus River

A1. SITE

Location of site and brief contextual setting

Source: Chief Directorate: Surveys and Mapping (base diagram) and author's collection

connector so that it can create a more meaningful contribution into the urban development corridor of Main Road.

The public realm as an ordering structure and a means of urban anchoring is being proposed in the case of Retreat Road and 5th Avenue. However, the public realm on its own cannot exist – it demonstrates a dual nature of requiring a supportive anchor for its survival. In the context of this dissertation, one of the anchors of the public realm being considered is an economic one in the form of a platform for economic activities, creation of jobs, creation of quality public spaces and urban integration and re-structuring. Furthermore, the notion of urban anchoring is regarded as having a catalytic and an incremental effect in bringing structure and order to an *area of a chaotic nature*.

This dissertation aims to answer the following research questions and objectives:

- What is a transverse connector into an urban development corridor?
- Can a transverse connector be anchored down in the urban fabric through a properly structured and ordered public realm?
- How can better public spaces enhance the natural, physical, economic and social systems of a transverse connector?
- What are the initial steps of an incremental and catalytic urban anchoring structure in attracting private funding?
- How can meaningful environments enhance the lives of people?
- What is the nature of the public realm and what animates the public realm?

1.2.2 Limitations of this investigation

This dissertation is not an investigation into the meaning of urban development corridors and does not aim at putting forward a strategy for facilitating the birth and growth of urban corridors. It will, however, briefly deal with the nature of a corridor to provide a contextual setting for this dissertation.

Henri Comrie (2003: p 7) claims that urban design has never been considered a profession but rather an approach to urban development – an approach that cuts across the boundaries of various disciplines. He points out that urban design involvement happens at the following various levels (Comrie, 2003: p 181):

- level 1 – national (Figure 1.10).
- level 2 – provincial (Figure 1.11).
- level 3 – metropolitan / regional (Figure 1.12).
- level 4 – sub-metropolitan / sub regional / small town.

This can be further elaborated with the inclusion of the following additional levels:

- level 5 – urban design framework (Figure 1.13).
- level 6 – urban design guidelines / coding (Figure 1.14).
- level 7 – architecture / buildings.

Traditionally, urban design dissertations carried out at the University of Cape Town have started at partially level 2 or at level 3 and proceeded to level 5 or just stopped short of completing level 6. The definition and nature of urban design is something that is fairly flexible. In the context of this dissertation and upon various discussions with my supervisor(s), I have come to the conclusion that urban design can actually be described as having a catalytic nature of a bottom –up approach. Thus, this dissertation will concentrate on levels 4-6.

1.3 Methodology for investigation and structure of the document

This dissertation firstly refers to the various bodies of theory applicable to and appropriate for urbanisation in the context of post-apartheid South African cities: dynamic minimalism, incrementalism and the capital web theory. Secondly, it refers to various precedents and case studies – as far as possible, local ones are considered. This provides the setting for understanding how the private realm can incrementally help in restructuring a chaotic urban environment by testing and applying those principles to Retreat Road and 5th Avenue as the chosen site for a design investigation. Where applicable, the investigation

Urban design involvement	Previous dissertations	This dissertation
Level 1 - national		
Level 2 - provincial		
Level 3 - metropolitan		
Level 4 - sub-metro		
Level 5 - urban design framework		
Level 6 - guidelines / coding		
Level 7 - architecture / buildings		

Figure 1.09 - Scope of this investigation in relation to various levels of involvement of urban design

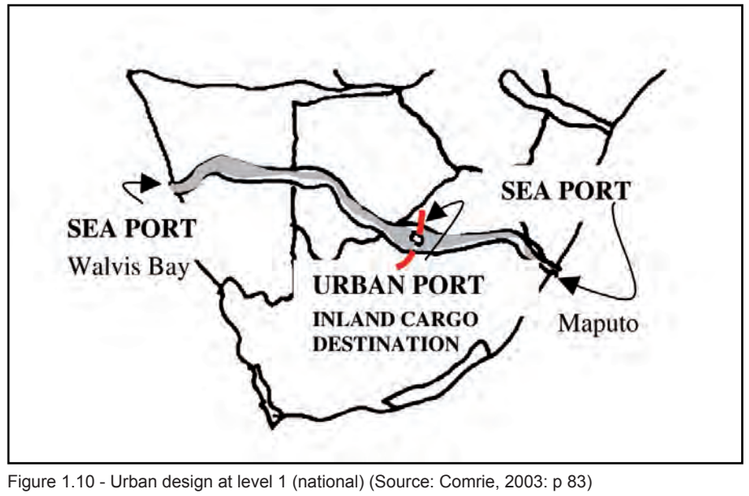


Figure 1.10 - Urban design at level 1 (national) (Source: Comrie, 2003: p 83)

makes reference to quantitative research such as statistics and density.

The argument supporting the idea of *urban anchoring through the public realm* is structured as follows:

- Chapter 1 (Introduction) provides the context for the investigation, the objectives and limitations and the methodology for the investigation.

- Chapter 2 (Current theory and literature applicable) identifies the different bodies of theory applicable to this investigation with a view to understanding some important concepts of urbanisation.

- Chapter 3 (Current practice: is the theory visible?) refers to various precedents and case studies to understand whether the gap between theory and practice is being bridged. As far as possible, this dissertation refers to local precedents and case studies.

- Chapter 4 (The relevance of a transverse connector) aims at understanding the meaning of a transverse connector into an urban development corridor and the possibility of anchoring a transverse connector through a properly structured public realm.

- Chapter 5 (Urban anchoring through the public realm as a design strategy) tests the principle of urban anchoring in the context of Retreat Road and 5th Avenue.

- Chapter 6 (Implementation of urban anchoring) investigates the idea of urban anchoring in depth by developing a coding for a portion of the investigation and looking at some of the post-design issues.

- Chapter 7 (Conclusion) sets out the findings of the research and identifies possible areas for further research.

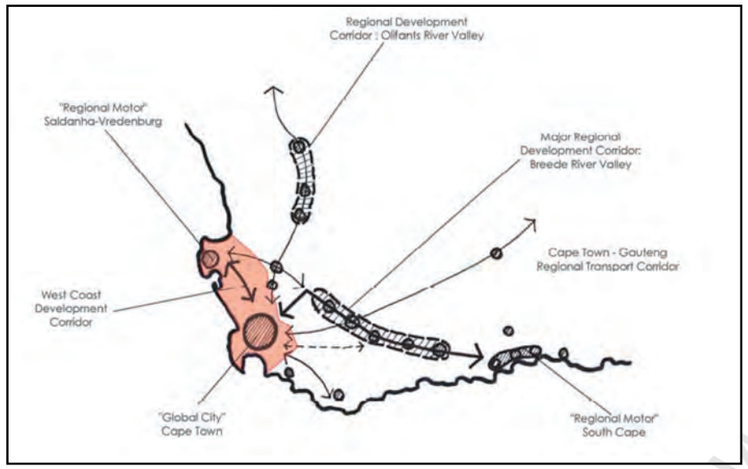


Figure 1.11 - Urban design at level 2 (provincial) - Western Cape Provincial Spatial Development Framework (Source: CNdV, 2005: p 7-43)

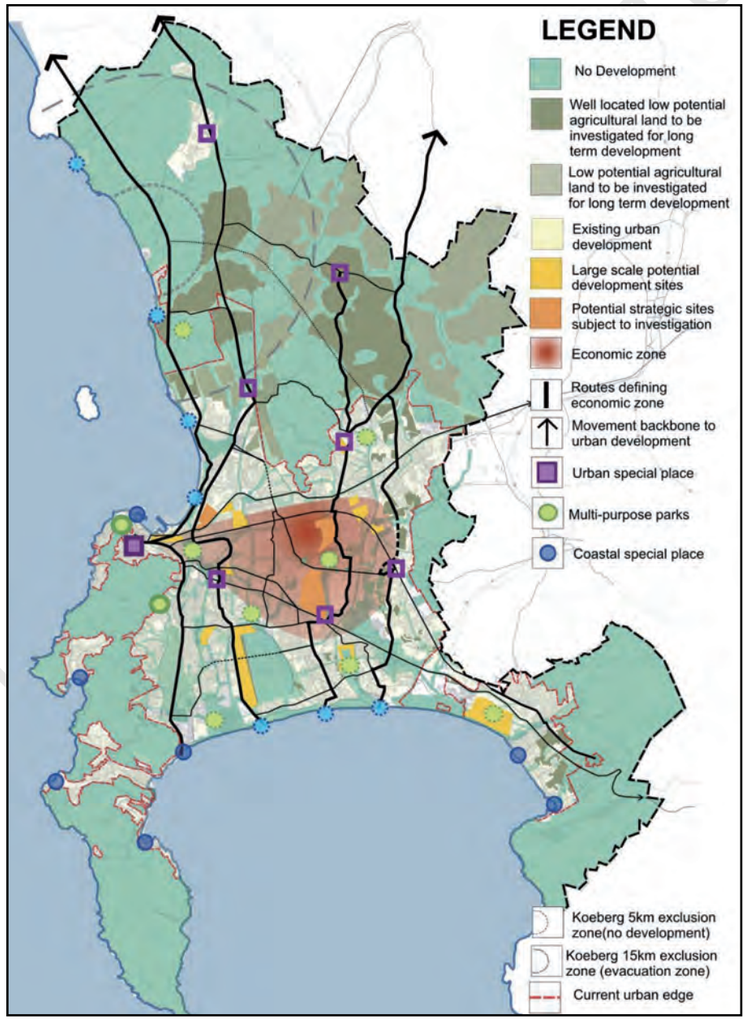


Figure 1.12 - Urban design at level 3 (metropolitan) - Draft SDF for Cape Town (Source: City of Cape Town, 2006: p 13)

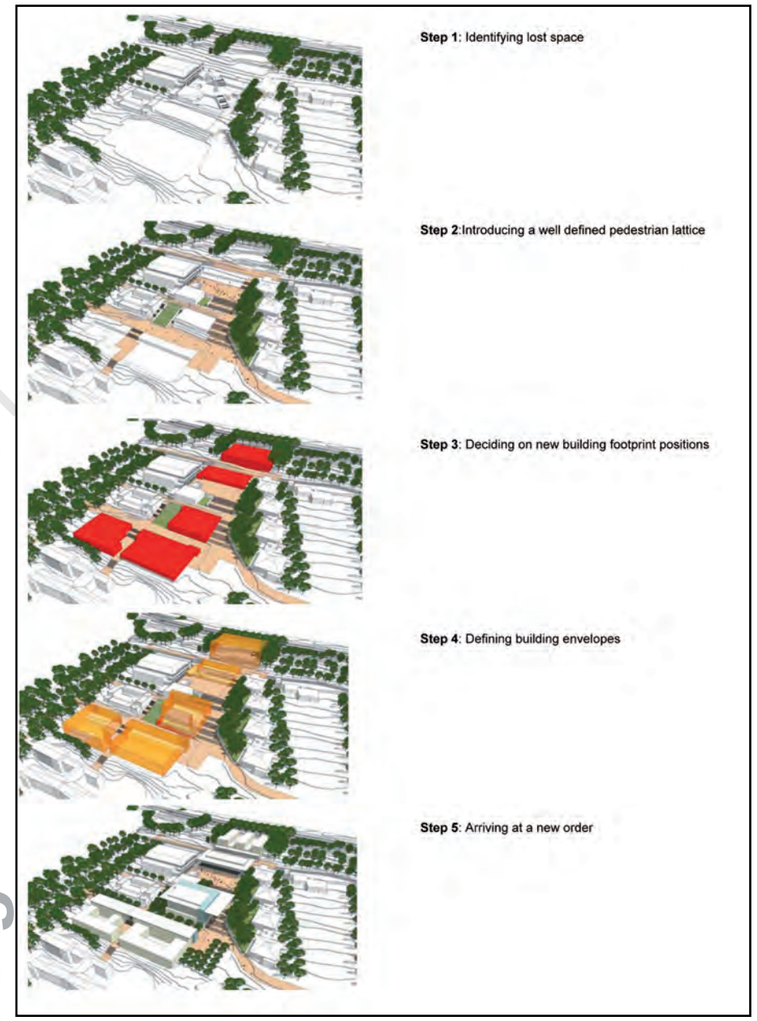


Figure 1.13 - Urban design at level 5 (urban design framework) - Framework for the middle campus of the University of Cape Town (Source: Comrie Wilkinson, 2009: p 23)

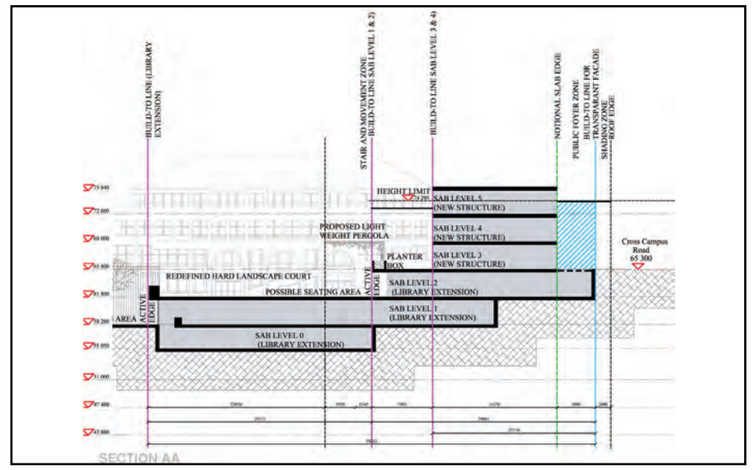
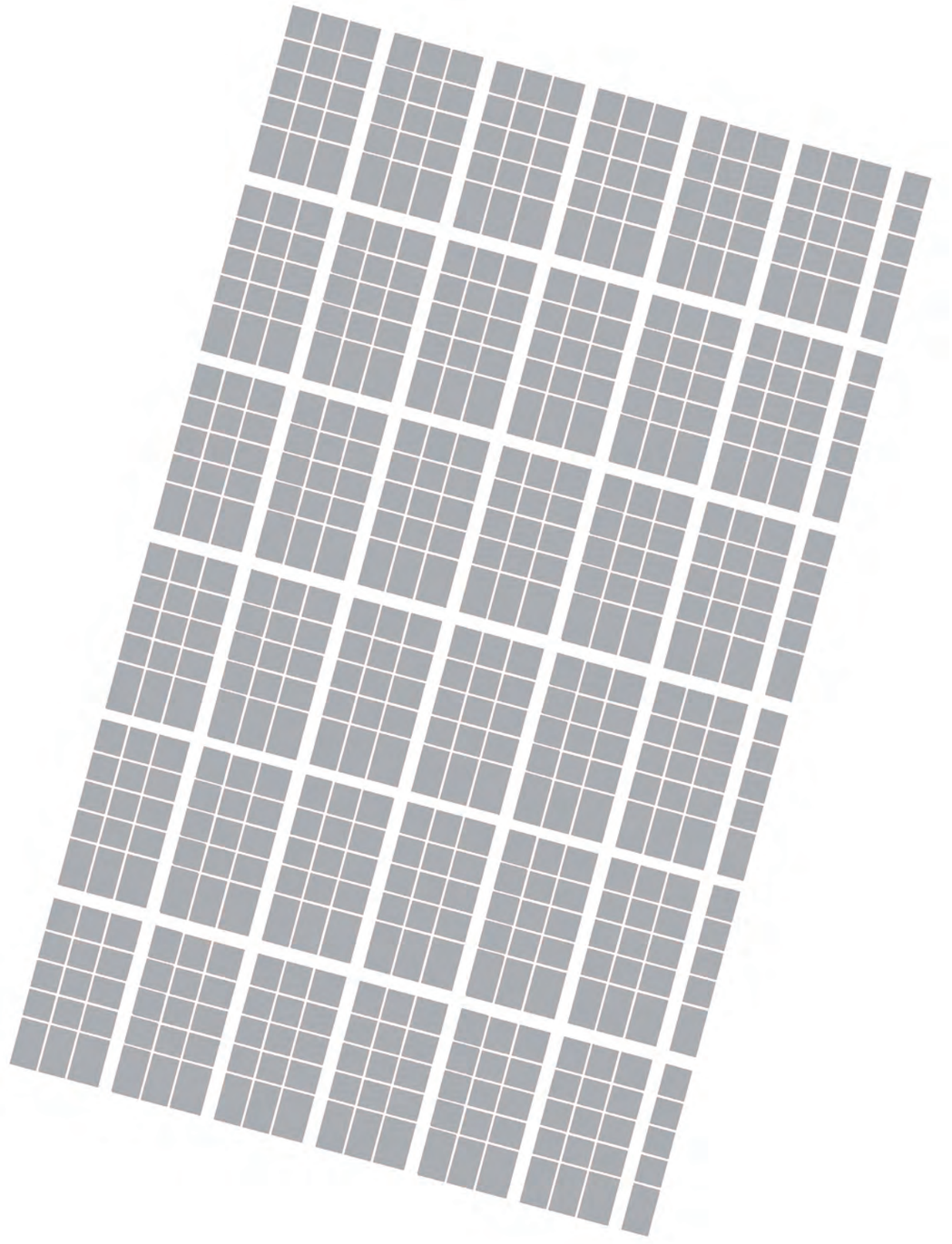


Figure 1.14 - Urban design at level 6 (coding) - Coding for new building on the middle campus of the University of Cape Town (Source: Comrie Wilkinson, 2009: p 33)

Chapter 2

Current theory and literature applicable



[Urban] anchoring of Retreat Road

Chapter 2: Current theory and literature applicable

2.1 Concepts of urbanisation

The world witnessed a drastic increase in the number of cities with a population of a million or more people – in 1850, there were four such cities and that increased to about a hundred in 1950 (Bell, 1972: p 15). The well-known trend of migration from rural areas to urban areas is still present today, especially in the context of developing countries, where people flock to cities believing that the grass is greener in urban areas compared to rural areas. How to define what urbanisation is or what is a city is an open-ended debate but Christopher Alexander (1987) in his book *A New Theory of Urban Design* provides us with a starting point. He refers to a city as a growing whole that has certain fundamental and essential features (Alexander, 1987: p 14):

- The whole grows bit by bit.
- The whole is unpredictable but there are plans, maps, schemes and conceptions to control it.
- The whole is coherent and not fragmented. The various parts of the city together make it into a whole.
- The whole is full of feeling because it is meant to touch us – something which modern cities are definitely lacking.

2.1.1 How to make a cake or bake a city?

In simple terms, a city is like a cake with its various ingredients mixed together and baked in an oven at about 180-200°C. The cake once baked and out of the oven is good, delicious or atrocious based on the process leading to the baking as well as the process of baking itself. There are many things, factors, processes and ingredients that produce a successful or unsuccessful outcome. Baking a cake sound like something straightforward and easy but can actually turn out to be an art depending on what kind of cake one is expected to produce. In a similar way, urbanisation is not an easy process – attempting to understand what is meant by the terms *city* would only be doable by unpacking the various 'things' that make up the city. And these 'things' are not isolated elements to be understood on their own but are rather complexly related to one another – they are systems that influence one another and are interconnected with one another.

2.1.2 Is a city like a cake?

Upon a closer look at what a city is and how it is made, we can deduce that it is not actually a simple process of a beginning and an end as encountered when baking a cake. In addition to the essential features of a city, Alexander (1987) talks about the city as an entity that grows through multiple actions. He puts forward seven intermediate rules of growth (Alexander, 1987: p 30):

- Piecemeal growth.
- The growth of larger wholes.
- Visions.
- The basic rule of positive urban space.
- Layout of large buildings.
- Construction.
- Formation of centres.

A city is an entity that actually grows bit by bit with varying degrees of influence from various informants and participants. There is no right way or a step-by-step manual for urbanisation. Similarly to Alexander (1987), Bohigas tries to give his opinion on urbanisation by also putting forward a methodology for urbanisation in the following ten points listed below (Bohigas, vol 206):

- A political phenomenon – stability and continuity of the political element.
- A domain of the commonality – a place where individuals make up a community.
- Tensions and chance as instruments of information – enriching experience of various elements causing conflicts with other elements.
- The public space is the city – public space to deal with the two issues of identity and legibility.
- Identity – a collection and coherence of various systems each having their own identity (physical and social).
- Legibility – to be comprehensible and to be understood by making use of and reinterpreting what people are used to.

"Cities have always, in every period, been essentially agglomerations of social, political and economic interests." (Gideon, 1967: p 818)

Figure 2.01 - Christopher Alexander (Source: Wired)

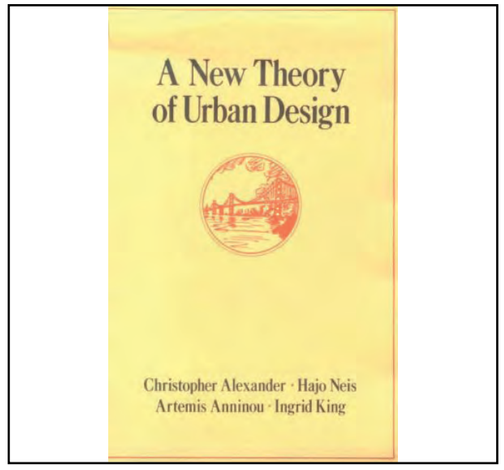


Figure 2.02 - Cover page of *A New Theory of Urban Design* by Christopher Alexander (Source: isbn)

Figure 2.03 - How to make a cake... (Source: Gregory Kogan)

- Architectural projects versus general plans – design the city point by point, area by area in architectural terms, for instance the public space.
- The continuity of the centralities – controlling the city through a series of projects as opposed to through a plan.
- Architectural quality: between service and revolutionary prophecy.
- Architecture as a project for the city – the city is an architectural project where part of it is to be designed.

2.1.3 Incremental morphology of urbanisation

In August 2000 in Nagasaki, a Japanese scientist trained slime mould, which has no brain and no executive cell, to find its way through a maze through the placing of food at the beginning and at the end. This strategic placing of food at specific points in space motivated the slime mould to move through the maze – each cell of the slime mould relay a signal to its neighbour by emitting a substance called acrasin such that they started to form clusters. (Hamdi, 2004: p xvi)

"*'It' becomes 'they' in response to changes in the environment...*" (Hamdi, 2004: p xvi)

This incremental nature where the slime mould as individual cells clusters together and subsequently starts working as a whole was triggered by their response to a change in their physical environment. The urban fabric also demonstrates a fairly identical nature of incrementalism in response to a continuously changing context. For instance, the linear settlement patterns along the traditional Silk Route developed over the years as a logical response to the trading opportunities provided by transcontinental trade routes (Comrie, 2003: p 34).

"*Designing the city and city region? With a few exceptions, towns and cities in the past developed incrementally and without a master plan with very good results. When in the 1950s and 1960s grand-scale master plans were developed things went dramatically wrong. Such an approach should never be*

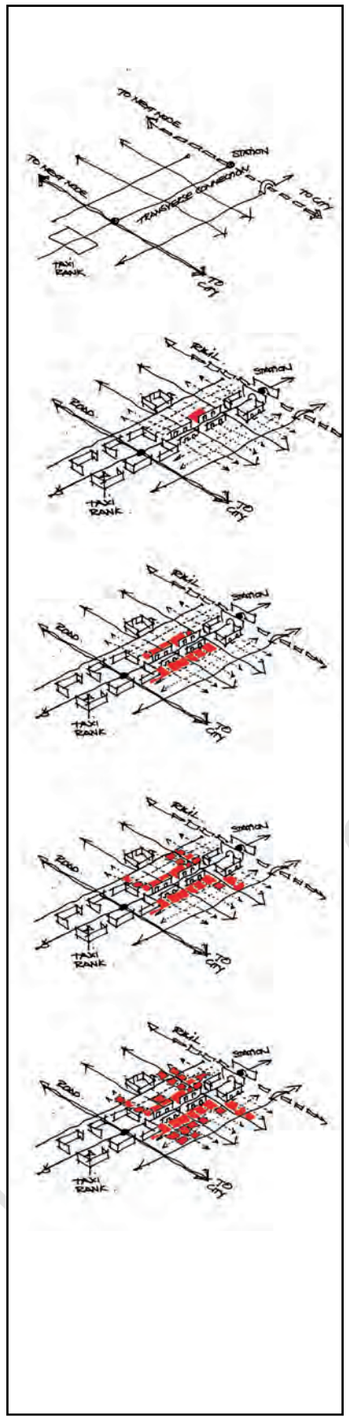


Figure 2.04 - Incremental development at the level of the overall system: a transverse connector into a corridor over various cycles of influence (Source: Comrie, 2003: p 336-337)

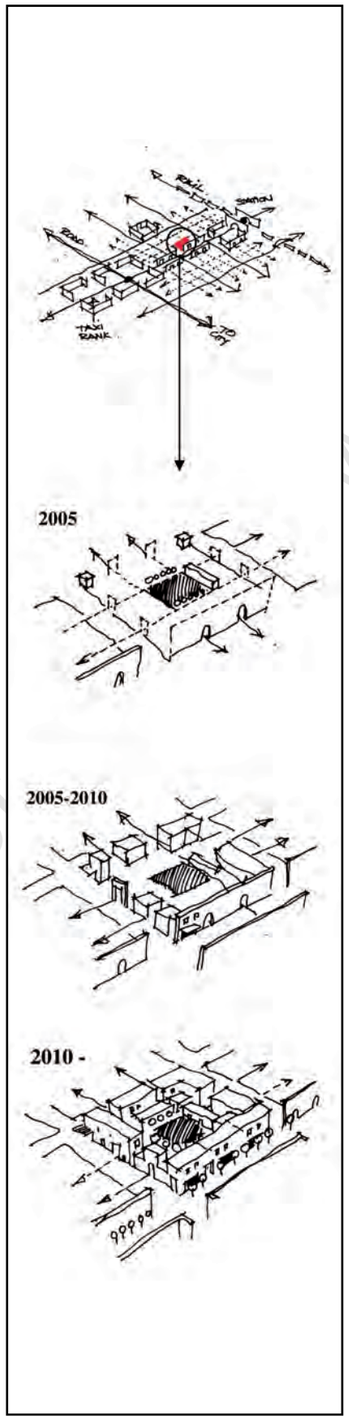


Figure 2.05 - Incremental development in the system: a block over various cycles of influence (Source: Comrie, 2003: p 338)

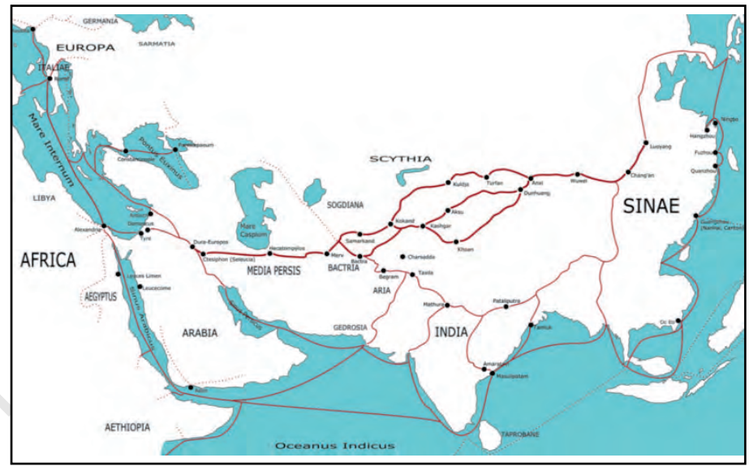


Figure 2.06 - The Silk Route (Source: Wikipedia)

Figure 2.07 - The Silk Route (Source: TimelessEarth)

incremental
complex
dynamic
[urban structure]

repeated." (Frey, 1999: p 2)

The incremental growth of a settlement cannot be completely dictated as *a city is a living organism that chooses its own path* – however, like the slime mould, it can be influenced. Urban development is an incremental process – the result of a sequence of independent, frequently speculative interventions and development projects that are gradually woven together to form a town, city or a metropolis (Frey, 1999: p 2). This incremental development of the urban fabric is somewhat affected by change at various levels and stages of the socio-economic and socio-physical conditions inherent in the town or city. Through strategic intervention and a logical investment pattern with a view to adapt to and influence change, the urban fabric can be steered and influenced on an incremental basis in the right direction. Change should occur in a hierarchical pattern by recognising that a selective number of parts are in need of various degrees of change (Crane, 1960: p 162). Hence, the emergence or upgrading of a corridor is not a short-term project but rather a long-term one with incremental growth and change (Le Grange et al, 2004: p 5). This incremental nature can be seen at various scales of the urban fabric: that of the overall system and also within the system (Figures 2.04 & 2.05). Over time, the morphology of the fabric also changes in terms of its scale and the grain of the urban fabric (Figure 2.08).

The concept of *incrementalism* can be very clearly understood in Hamdi's explanation of the title of his book *Small Change* (2004):

- 'small' because that is how big things usually start.
- 'change' because that is what development is essentially about.
- and 'small change' because it can be achieved without the typical expenditure of millions on programmes and projects.

2.1.4 The complex nature of a city

Sandercock (2000) has a powerful vision of what a city should offer and how it should accommodate a complexity of elements:

"*I don't want a city where young African Americans have to sell drugs to make a living, or Thai women are imprisoned in sweat shops in the garment district where they work sixteen hours a day six days a week; where boys carry guns to make them feel like men, and suspicion oozes from plaster wall, and white neighbourhoods call the police if they see a black/stranger on their street…where immigrants are called 'blackheads' and forced to find shelter in the industrial zone; where whites pay more and more of their private incomes to protect themselves from strangers…where political candidates run on promises of cutting off services to illegal immigrants…a city where I am afraid to go out alone at night, or to visit certain neighbourhoods in broad daylight; where pedestrians are suspect and the homeless always harassed…where my profession – urban planning – contributes to all of the above, acting as spatial police, regulating bodies in space…*' (Sandercock, 2000: p.31)

Unlike Le Corbusier's belief in his book *Towards a New Architecture* that all men have the same organism, the same functions and the same needs (Le Corbusier, 1989: p 136), Sandercock believes that a city is made up of individuals and this diversity is to be celebrated rather than be seen as something bad and repressed. Similarly, John Friedmann defines the city as ultimately the people and claims that a vibrant city is a prerequisite for good human flourishing (Friedmann, 2000L p 465 & 467). At first glance, a city can give the impression of a monolithic element but once one scratches beyond the surface, one discovers another whole world in a similar fashion to what the human body actually carries inside (Figure 2.09).

Cities need a diversity of uses that provide mutual support for each other – they can differ from each other but they supplement each other economically and socially (Jacobs, 1961: p 14). In the era where Modernism became the mantra, an over-simplification of ideas on urbanism was observed resulting in disintegration and loss of quality of space: the city was – and is still – being divided into zones based on building density, regulations on the height of buildings and purpose such as block of flats, houses, shops, industry, manufacturing, parks and so on (Nouvel, 1980). As a result of these mono-functional zones, Nouvel (1980) believes

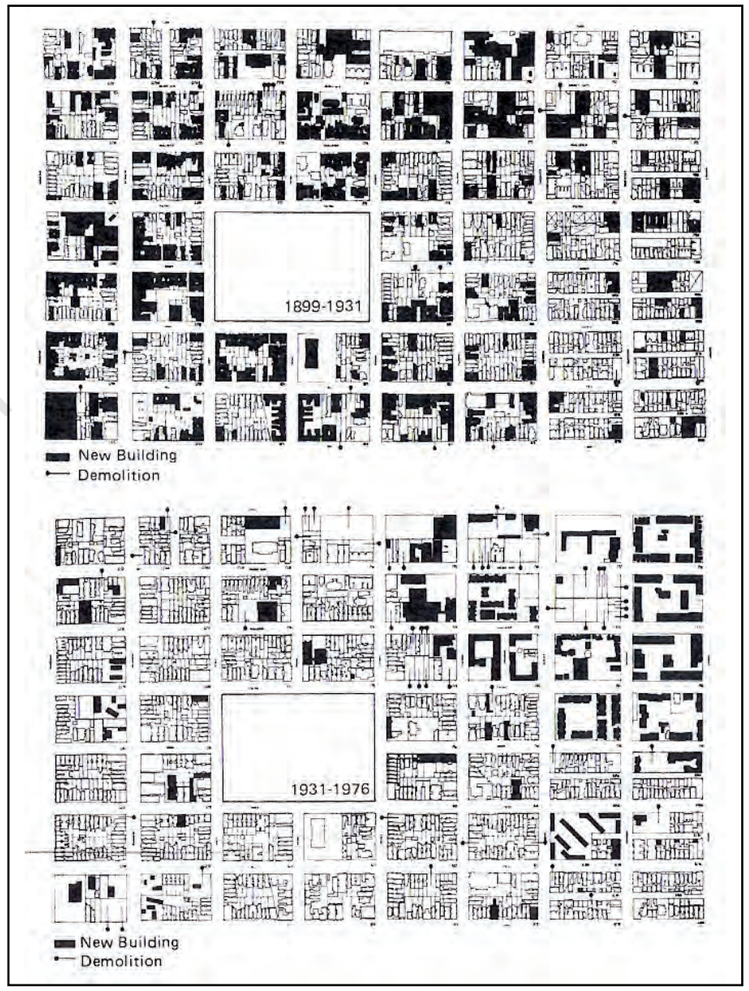


Figure 2.08 - Morphing over time of the grain of the San Francisco blocks (Source – Moudon, 1986: p96)

Figure 2.09 - Invisible complex nature of the interwoven network of nerve cells in the human brain in the human body similar to the complex nature of the urban fabric (Source: The Situationist)

that cities are facing a loss of cultural identity, animation and spontaneity as these factors are thought of once the master plan for the city has been drawn up.

2.1.5 Structure, form and order of a city

"*Designing the city or city region? The city form is never finite, always changing. Design tends to freeze form and structure and to prevent the city from adapting to changing socio-economic conditions.*" (Frey, 1999: p 2)

This section of the dissertation is only aimed at providing a brief and somewhat generalised idea of what is meant by the concepts of structure, form and order of a city. These concepts are not easy to grapple with – they manifest themselves both at a physical and non-physical level. The structure and form of towns and cities are shaped by physical informants such as communications and transport technology as well as non-physical informants such as economic and market forces and our way of life. In simple terms, it can be referred to as the main backbone (Figure 2.10) of the urban fabric – it gives legibility and meaning to the urban fabric and provides orientation to the users. However, one must bear in mind that this urban backbone is also subject to the phenomenon of incrementalism and change. Urban fabric will never have a finite form or structure – cities continue to change, grow or shrink, expand or contract in order to adapt to changing socio-economic conditions (Frey, 1999: p 2). According to Habraken, it is important to understand the morphology of the urban fabric over time in the same way that scientists observe transformation to understand the structure and nature of things (Habraken, 1998: p 7). How things change over time can only help us in understanding the evolution of urbanisation.

Habraken breaks down the concept of order into three main categories which influence the variety of forms and behaviour of agents or users (Habraken, 1998: p 11):

- The physical order – a hierarchy of unique qualities of physical components of the built environment which influence what agents do.
- The territorial order – agents having control over space as opposed to form and defines what happens in space.
- The cultural order – understanding among the agents to create patterns, types, systems.

Nabeel Hamdi (2004: p 67-70) talks about five main types of communities that he has come across in practice:

- Community of interest – people gather around issues of a common concern for various purposes such as protesting and voicing out their concerns. A place is generally required in the form of a gathering space: a community centre, a church hall or a local school.
- Community of culture – social networks are formed with shared values, rules of conduct and beliefs as the platform. The imparting of knowledge, ideas, values, beliefs and rules of conducts can be carried out in a place such as a religious institution, a school or a town hall.
- Community of practice – this revolves around the concept of work which can be explained as the ways of doing things over time on an individual or collective level with a view to achieve a specific purpose. Community of practice helps in reinforcing social networks resulting in the creation of formal as well as informal enterprises, service providers and organisations – a place of work.
- Community of resistance – unlike the previous ones, this type of community does have physical characteristics and forms in the sense that it exists in the mind of the individuals. It is manifested in times of threat and social unease and helps in making sure that the memory of the past is carried through to the future through actions. Places in the form of museums and memorials can help in nourishing such a community.
- Community of place – this deals with the concept of place in relation to communities. Place is a porous entity and forms part of a bigger network. It is a 'something' that people identifies with and feels empowered through its use. With the support of the other four types of communities, place is a living entity that changes over time.

Those five types of communities manifest themselves both on

Figure 2.10 - Human backbone as one of the main structuring elements of the human body that adapts to change and responds to its environment and context (Source: Fotosearch)

"A good structure must be interrupted from time to time if you have reason to do it.." (Habraken, 1976)

legibility and orientation - [urban structure and order]

Figure 2.11 - The portico as a defining urban element demarcating the edges between the street and a public space (Source: Wikimedia Commons)

a physical / spatial and a non-physical / non-spatial level but it provides a fairly good attempt at understanding some of the essential elements that make up the structure and order of a city.

Leon Krier in *The Reconstruction of the City* put forward a typology of urban space in the form of streets, avenues, squares, arcades and colonnades (Krier, 1978). Other authors such as Habraken (1998) himself refers to other urban elements such as the urban blocks as forming part and giving rise to the structure of the urban fabric. These elements (Figures 2.11 – 2.14) become recognisable by the users on an individual level as well as a collective one providing orientation to the users. It also aims at providing coherence in the urban fabric as well as the notion of a hierarchical order through the various networks created by the different urban elements. The various structuring elements thus become easily identifiable by the users. However, according to Leon Krier (1978) our towns and cities are facing a challenge with a loss of precise urban space – the street, the square, the colonnade, the arcade, the court. This loss of clarity, when it comes to the urban structuring elements, gives rise to various problems in cities – Frey identifies inadequate structure and form, distribution of population, its patterns of land use, its systems of transport as some of those problems (Frey, 1999: p 3). Being part of a network, they impact negatively on each other and contribute to the deteriorating state of our cities.

2.1.6 The dynamic city and David Crane's theory of the Capital Web

The ideas of the *Dynamic City* and *The Capital Web* has not been very well represented internationally in the urban design discourse – an internet search about *David Crane* on the Google search engine hardly yields anything relevant to the subject matter. Locally, however, his ideas and theory on urban design has proven to be very influential. Henri Comrie (2003: p 218) notes that this can be attributed to the fact that some of the pioneering South African urbanists such as Roelof Uytenbogaatdt and Glen Gallagher were taught by Crane at the University of Pennsylvania. A few decades later, his ideas and theories on urban design are still being passed down through the only South African urban design school at the University of Cape Town (Mentz, 2007: p 32).

David Crane (April 1960: p 162) identifies three characteristics of the contemporary dynamic city as follows:

- Rapid acceleration of change in city life forms and unequal physical progress.
- Interdependence of life and structures over space-time dimension.
- Complexity, multiplicity and power of the City of a Thousand Designers.

With an incremental nature, the dynamic city grows over time from a multitude of flexible parts with the aim to find the balance between the various parts. Dewar et al (1991: p 23) identifies two types of actions in settlement making: private action which characterises the 'laissez faire' type and public action which provide for a sort of control for the benefit of the society. The *Capital Web* by David Crane aims at finding the fine balance between this dual nature of cities characterised by the public and the private sectors. Capital designing (Figure 2.15) by the local government as part of the *capital web* enables the local agent to design and build its own facilities in an ordered time-space sequence as a means of control over the urban fabric (Crane, April 1960).

Through efficient and strategic design on behalf of the public sector, an element of permanence is provided to land and public facilities but also accommodating future changes by allowing the private sector to get involved in the process of urbanisation. Public funds are to be invested according to a 20-80% principle whereby the initial 20% share is state investment destined for infrastructure and marketing. This will provide the proper context to attract the remaining 80% through private / international investment (Comrie, 2003: p 80).

Large master plans are hardly implemented in reality – they usually remain on dusty shelves. Moreover, designers and governments have been known to refuse to allow people in

Figure 2.12 - A grander and posh portico in Bologna demonstrating a hierarchy among the porticos as an urban element (Source: flickr)

Figure 2.13 - A different version of the portico in Bologna as part of an urban space of a different order and hierarchy to the one in Figure 2.11 (Source: TravelPod)

Figure 2.14 - Porticos leading into the countryside towards the San Luca sanctuary as an ever-present spine (Source: Learn Italian in Italy)

on the process of city building thus resulting in the creation of slums (Crane, 1964: p 90). But with our current volatile nature of society and economic forces, capital designing by the state allows private developers in the form of investors and also individual land owners to play their part in the process of city-making. David Crane (May 1960) likens the process of city-making to the different phases of manufacturing with each one adding value to the material through a specialised process – private developers also have their contribution to this multi-layered process initiated by the public sector.

2.1.7 Neo-rationalism: the reconstruction of the public realm

The practice of urban design was initiated in the era of post-modernism after the 1960s, especially in the period between the 1965 and 1975 (Ellin, 1996: p 22) as a rejection of the principles and ideals of modernism. Unlike the latter, 'post-modernism' urban design is not influenced by a single body of theory or style – various threads and theoretical approach are inherent in urban design as a movement, namely Neo-Rationalism, Popular Urbanism, Contextualism and Critical Regionalism...The neo-rationalists were against the capitalist and consumerist nature of the cities that developed as a result of the machine, the industrialist city and the Modern Movement. Neo-rationalists were for a return to medieval conditions where the craftsman worked in his own workshop and produced things and enjoyed the social links with his customers (Broadbent, 1990: p 159). They were concerned primarily with the reconstruction of the public realm – one that was more intimate and pedestrian in scale.

Searching through their European historical and cultural legacy of centuries of city planning and building, the neo-rationalists looked for the fundamental types of habitat / urban components: the street, the arcade, the square, the yard, the quarter, the colonnade, the avenue, the boulevard... (Ellin, 1996: p 23). They accepted the forms and types that were offered by history to them as a source of inspiration to create an armature for the city that would allow its future evolution (Van Schaik, 1985). Aldo Rossi was one of the main proponents of neo-rationalism. In his search for the precise and specific types at the architectural and urban level, Aldo Rossi put forward two types of buildings as follows (Van Schaik, 1985):

- Monuments.
- Buildings for living.

He believed that the significance of a place was not legible through function and eventually the form associated with it but rather with the memories associated with it. Thus, in borrowing from the past city forms (morphology) and building forms (typology) (Ellin, 1996: p 25), he believed in the creation of an armature that facilitated the interplay between the public and private realms – the Nolli plan of Rome (Figure 2.16) is regarded as the ultimate example of that dual nature of the urban fabric. The monuments were to be public in nature and different in scale from that of the surrounding buildings – they were part of the armature of the city that would provide it with its features and form. The monuments would create meaningful areas and spaces in the city giving the latter its structure – they would become the fixed points for the surrounding buildings to react to, thus the creation of buildings for living. Monuments provided the setting for the creation of urban life and for the citizens to respond to. On the other hand, the citizens created the buildings for living to respond to their needs.

2.2 Systems inherent in a city

To satisfy our need to understand the nature of cities, the latter can be broken down into components so as to create a simpler representation of the urban world (Bell, 1972: p 16-18)

"*Built environment and chess may be compared as multilevel organisations whose configurations are controlled by different parties.*" (Habraken, 1998: p 26)

As per Christopher Alexander (1972: p 404), a city can be regarded as a network of systems, some of which can be regarded as dynamic and others as fixed. In man-made cities, this network of systems can take the shape of a tree as it is rigidly put in place

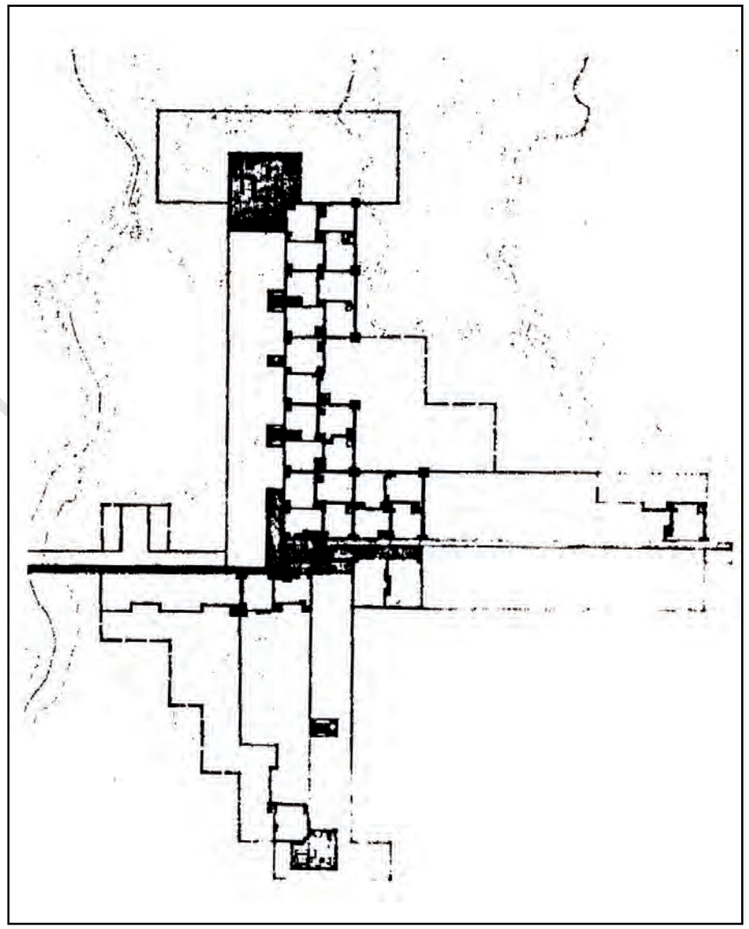


Figure 2.15 - Capital web for Chandigarh as part of *Chandigarh Reconsidered* (Source: Crane, April 1960)

Figure 2.16 - Nolli plan of Rome demonstrating the armature of monuments as part of the public realms and complemented by the private buildings for living (source: CoolTown Studios)

whereas the self-made cities take the shape of a loose lattice where systems are put in place or happen on their own. The degrees to which those systems are connected and overlap with each other create the success of the city. Those systems in the case of the tree shape are fairly fixed resulting in simplicity and fixed order whereas on the other hand, the systems for the lattice shape are fairly dynamic in nature (Figure 2.17) and are always on the change and adapting to new conditions so as to always create a level of complexity.

"*Cities have always, in every period, been essentially agglomerations of social, political and economic interests.*" (Gideon, 1967: p 818)

Trying to understand the various systems that make up the urban fabric help one in better understanding the urban context. Subsequently, breaking down the urban fabric into its various components not only answers the various questions of *what is* but also help to answer the initial questions of *what could be* by acting as informants of design.

2.2.1 Natural systems

Sustainable development is rapidly becoming one of the major aims of many cities worldwide in times where the earth is being faced with new challenges in terms of depleting resources and climate change. This can only be achieved through a proper understanding of the natural systems affecting cities and vice versa. Natural systems contribute immensely towards the biodiversity of an area – natural resources of the urban fabric can be regarded as vital resources for the future as well as important informants for the other systems.

"*Biodiversity is the variability among living organisms from all sources including, amongst others, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part. It covers the composition, structure and function of living organisms, and includes diversity within species at a genetic level, between species and of ecosystems…*" (De Villiers Brownlie Associates, 2005: p 1)

A good understanding of the natural systems can help in the following various ways:

- Natural resources as generator of opportunities, for instance economic and social ones.
- Protection and management of the biodiversity for future generations.
- Landscape as a visual element (Figure 2.18).
- Landscape as part of a cultural heritage (Figure 2.19).
- Nature as part of an open space network for recreational possibilities (Figure 2.20).
- Potential of the natural systems for agriculture.
- Understanding of the hydrology systems to protect water as a very important resource.

The natural systems impact heavily on human wellbeing and the quality of life in a city. Therefore, it is very important to fully understand the impact of the urban fabric on the natural systems as well understand how the latter can shape the future of cities. Understanding its importance and the role it plays can only help

natural | urban | economic | social | [systems]

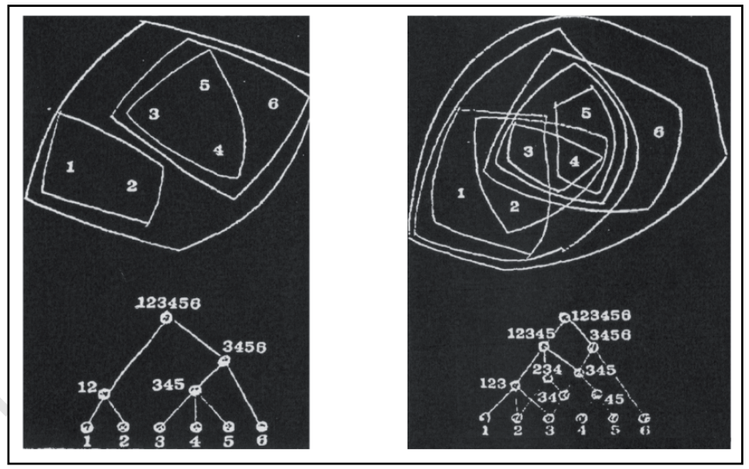


Figure 2.17 - Network of systems - tree-shaped (left) and loose lattice (right) (Source: Alexander, 1972)

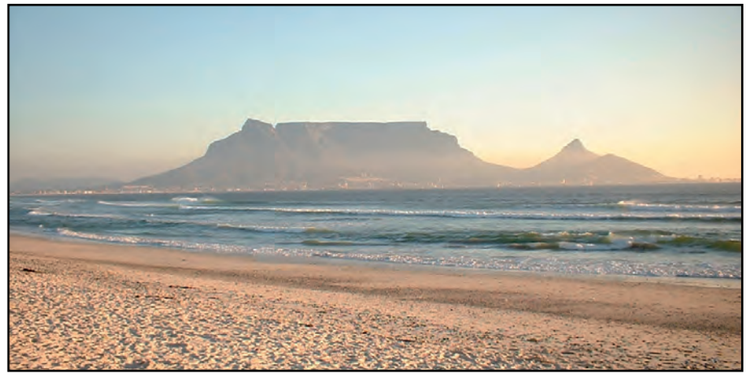
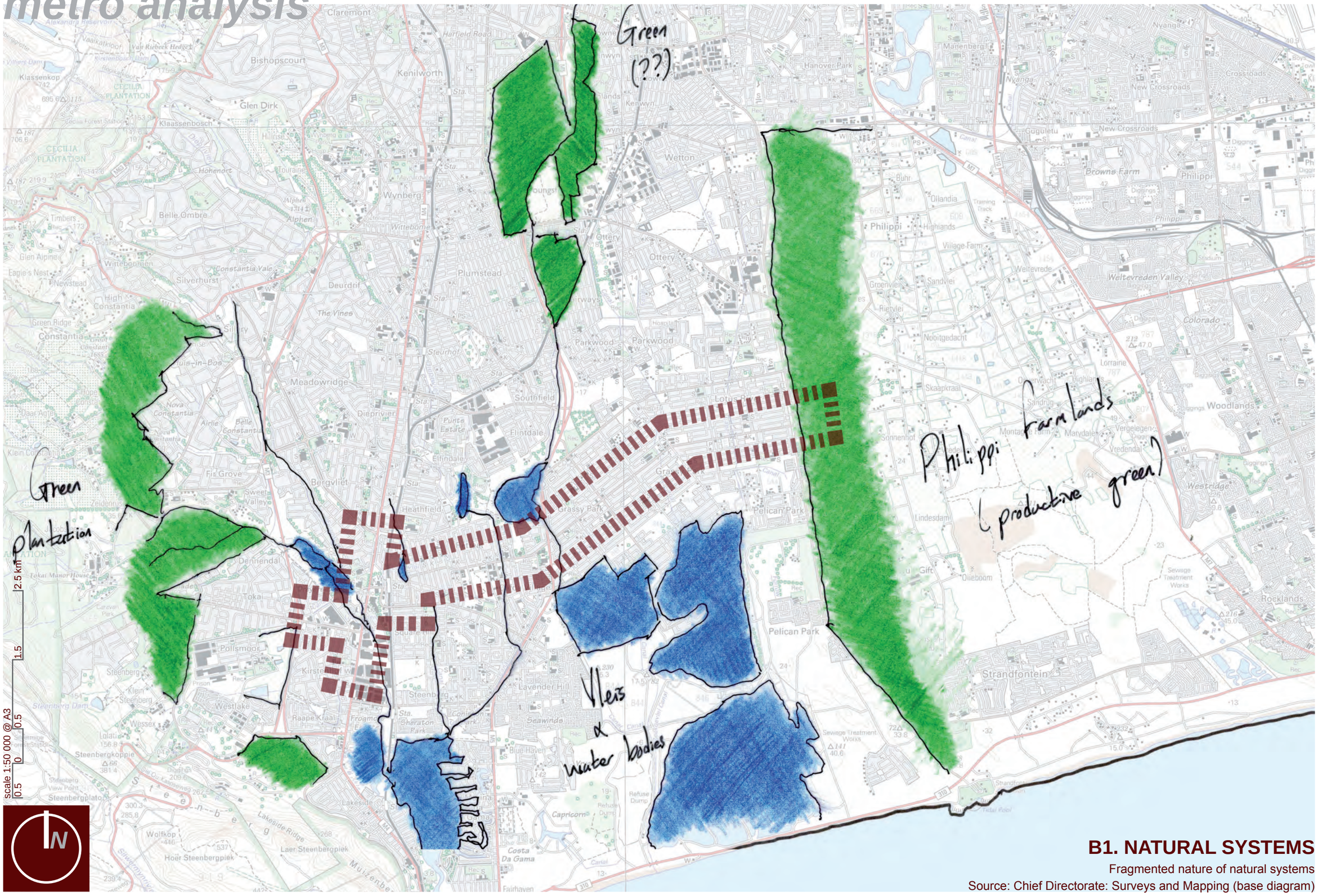


Figure 2.18 - Table Mountain as a valuable natural resource in the lives of the residents of Cape Town (Source: Author's collection 14/04/04)

Figure 2.20 - Langvlei at beginning of Retreat Road as a potential high quality open space (Source: Author's collection 29/08/09)

Figure 2.19 - Princess Vlei as an area of cultural significance where baptisms are carried out on a regular basis (Source: Author's collection 29/08/09)

metro analysis

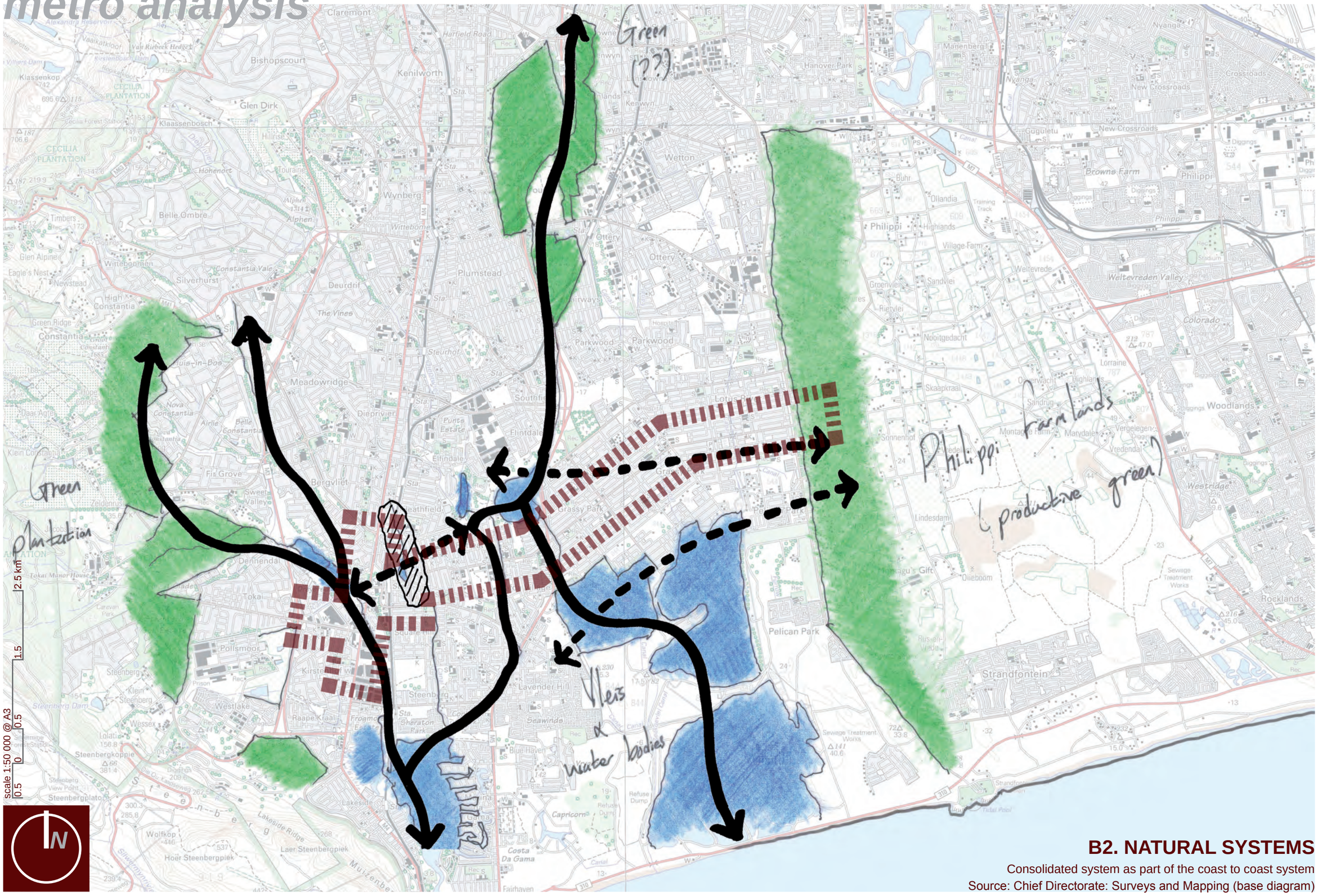


B1. NATURAL SYSTEMS

Fragmented nature of natural systems

Source: Chief Directorate: Surveys and Mapping (base diagram)

metro analysis



B2. NATURAL SYSTEMS

Consolidated system as part of the coast to coast system

Source: Chief Directorate: Surveys and Mapping (base diagram)

in the aim of protecting the vital natural resources for future generations to be able to enjoy (B1 & B 2).

2.2.2 *Urban systems*

One of the main elements of the urban systems is the movement network (B3a & B3b). Activities of varying nature (Figure 2.21) ranging from commercial, trading, commuting, social, leisure, educational, professional, residential just to name a few, are the main generators of movement both in the form of pedestrian and vehicular. Such activities of varying intensity usually cluster and agglomerate along the movement network, which forms the spine of an urban development corridor (Le Grange et al, 2004: p 10). This gives rise to various nodes along the movement network in the form of a pattern of beads along a string (Figure 2.22). Based on various factors such as accessibility and context, these nodes display various intensity and nature of activities (Figure 2.23; B4 & B5)).

Two very important variables in the form of *access* and *mobility* form the main structure of the urban systems of a city. According to Henri Comrie (2003: p 70-71), mobility is usually associated with the elite and working or rich section of the population and access is associated with the poorer section of the population. He further points out that mobility and access are usually segregated from each other in the typical post-apartheid South African city – this is physically and spatially manifested through the erection of physical barriers along the N1 highways leading into Cape Town or the fencing along the railway lines. This dual nature displayed by the urban systems are very often generalised and simplified in the sense that it is often assumed that the provision of road and rail networks (mobility) will provide people with better opportunities (access) (Comrie, 2003: p 71). However, such actions can actually generate physical barriers in reducing the impact of access on the daily lives of people who, in the first place, must also be able to exploit the so-called advantages of mobility.

Other important components that are crucial informants of the urban systems are listed below:

- transport interchanges as a generator of access and mobility.
- intensity and nature of activities along or in close proximity of the spine.
- subsequently, intensity and nature of nodes as a result of clustering of activities.
- possible transverse connectors generated as a result of these nodes.
- spatial distribution of the nodes.

2.2.3 *Economic systems*

Location of intense activities along the continuous movement networks generates flow of movement and people usually known as a flow of energy. This flow of energy, in its turn, generates economic activities (Figure 2.24) both at the local and metropolitan scale. Routes of higher accessibility usually result in a higher flow of energy – the birth of the phenomenon of a market to harness that energy. Potential of such a market to incrementally grow actually depends on three factors: number of people served by the route, volume of through-traffic, income of these people (Le Grange et al, 2004: p 10).

In the post-apartheid South African context, it is a usual occurrence for economic activities to demonstrate a dual nature in the form of formal and informal activities. A lack of formal activities usually provides the platform for informal activities to take place. These are developed as survival strategies required on a daily basis. The formal nature and informal nature can be respectively associated with what Henri Comrie (2003) calls *market space* and *action space* (Figure 2.25). He defines *action space* as (Comrie, 2003: p 2 – Annexure 1):

- areas in an urban corridor zone characterised by high levels of poverty and socio-economic transience.
- an area in which the market has shown little or no interest.
- development action is highly dependent on public funding.

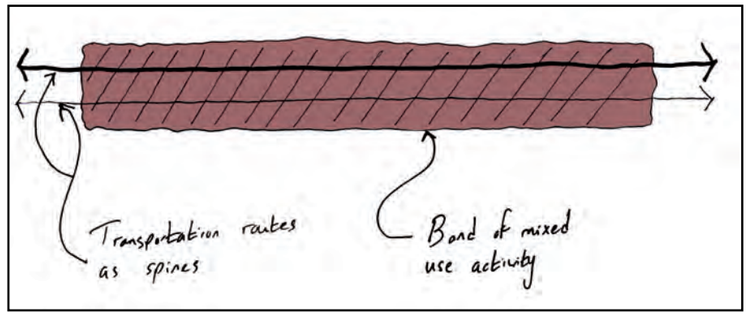


Figure 2.21 - Mixed use activity along spine (Source: Author's sketch)

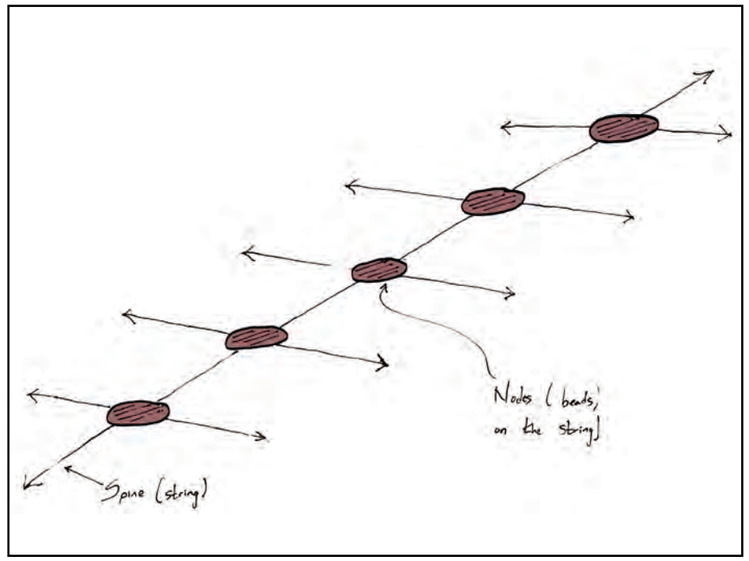


Figure 2.22 - Nodes as beads along a string (Source: Author's sketch)

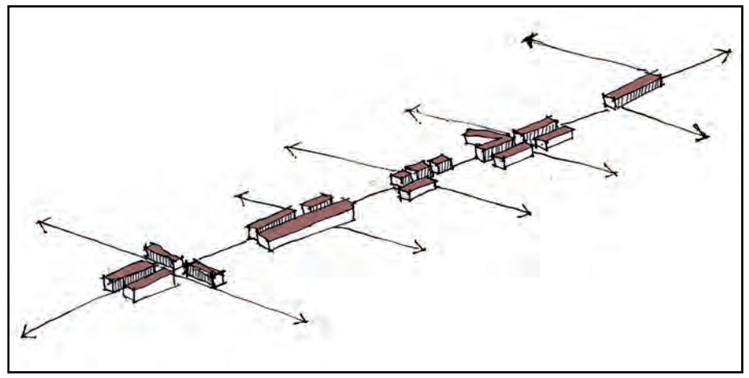
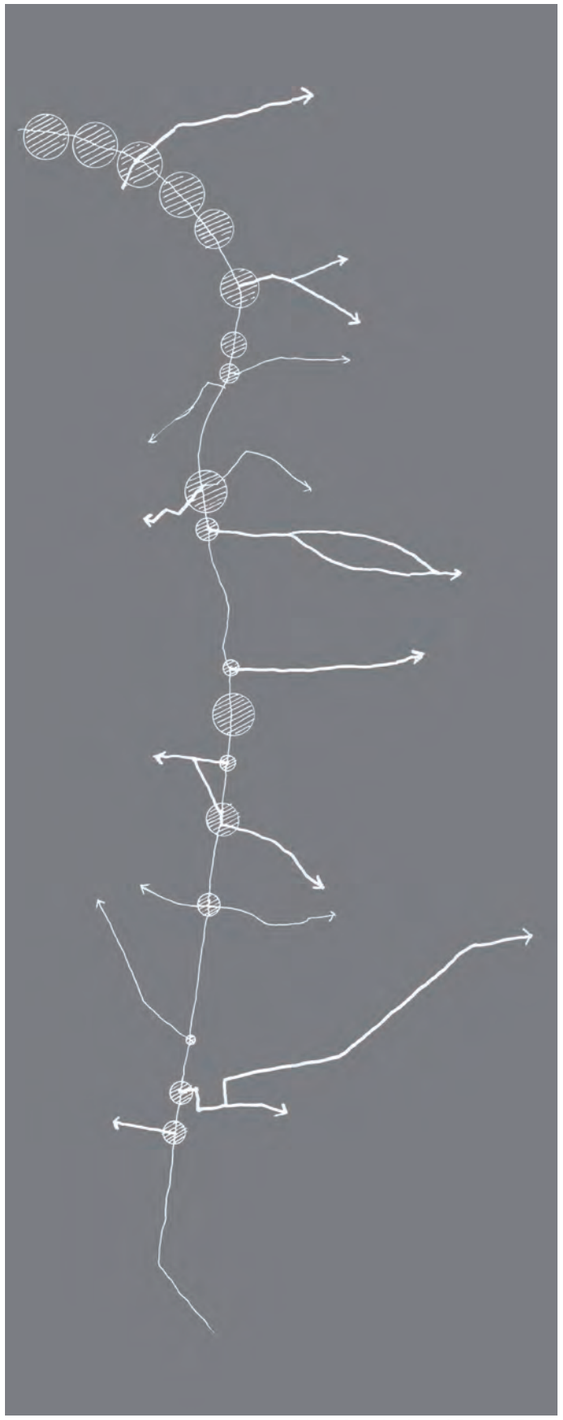


Figure 2.23 - Nodes of varying intensity and nature (Source: Author's sketch)

Metro
Analysis



[Urban] anchoring of Retreat Road

metro analysis

TABLE BAY

CAPE TOWN

Voortrekker Road (activity spine)

N2 (mobility)

Woolsack Drive
(educational - UCT)

Belmont Road

Klipfontein Road (activity
and mobility)

Kromboom Road (activity)

Avenue

Legend

Activity spine

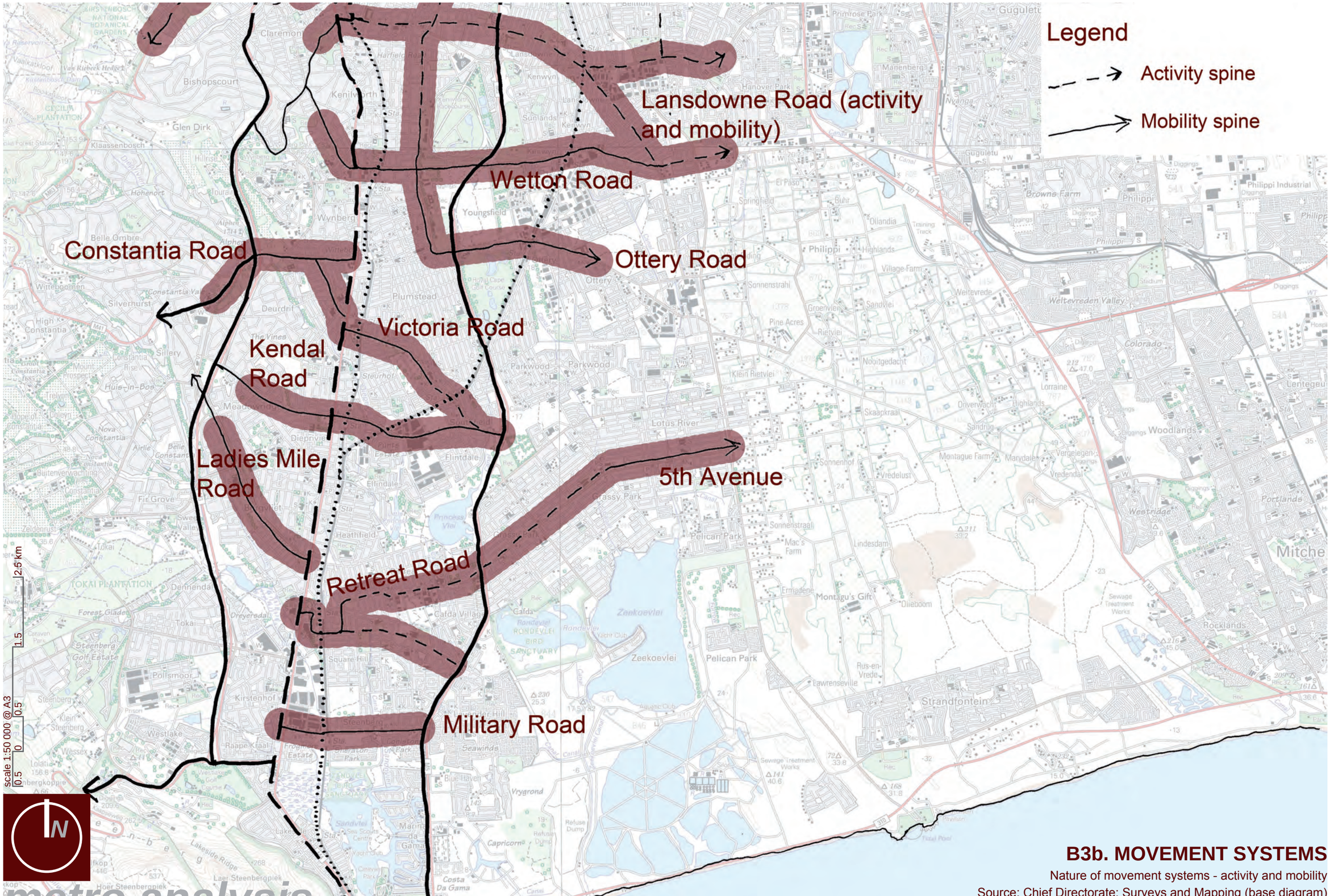
Mobility spine

scale 1:50 000 @ A3
0.5 0 0.5 1.5 2.5 km

B3a. MOVEMENT SYSTEMS

Nature of movement systems - activity and mobility

Source: Chief Directorate: Surveys and Mapping (base diagram)

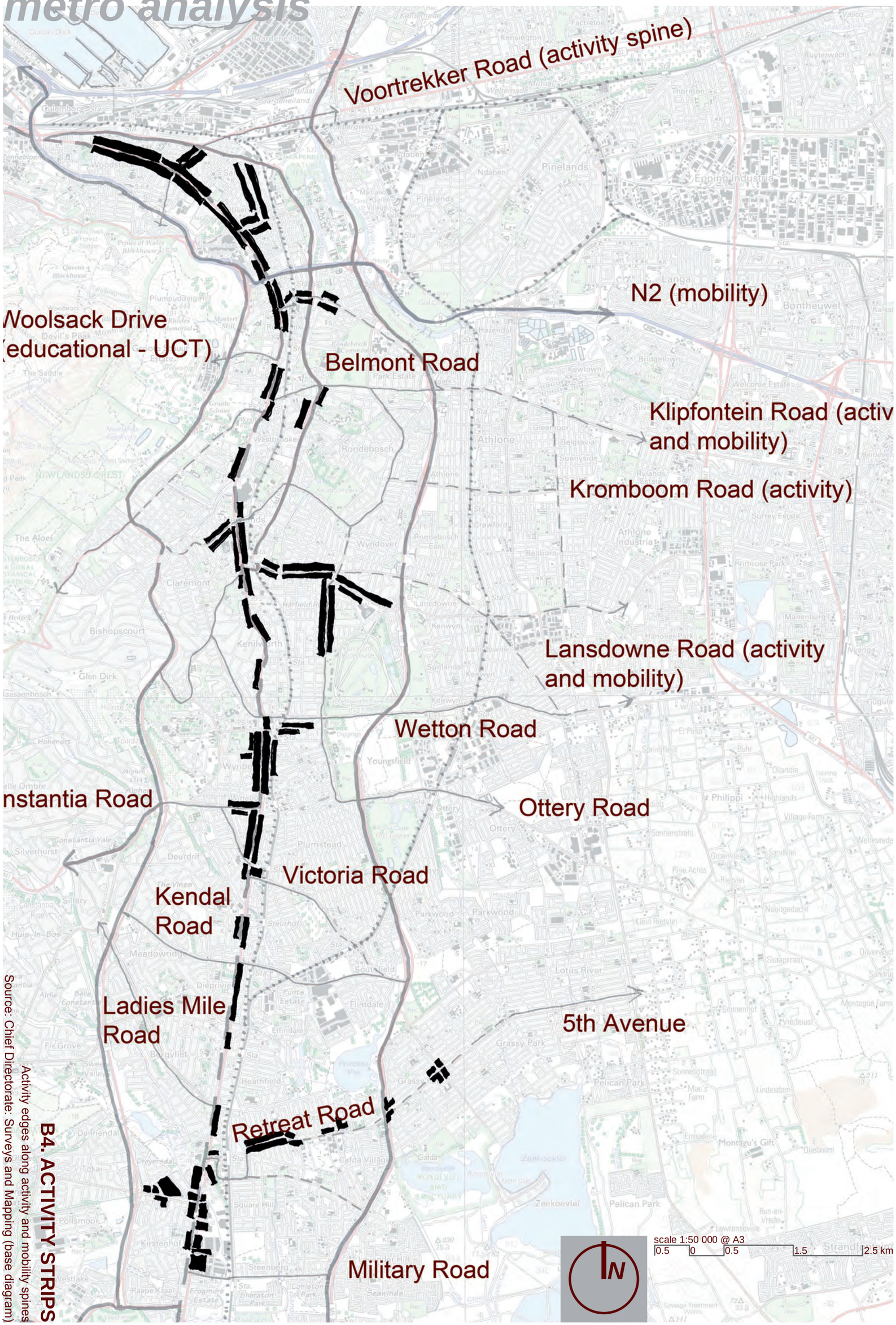


B3b. MOVEMENT SYSTEMS

Nature of movement systems - activity and mobility

Source: Chief Directorate: Surveys and Mapping (base diagram)

metro analysis

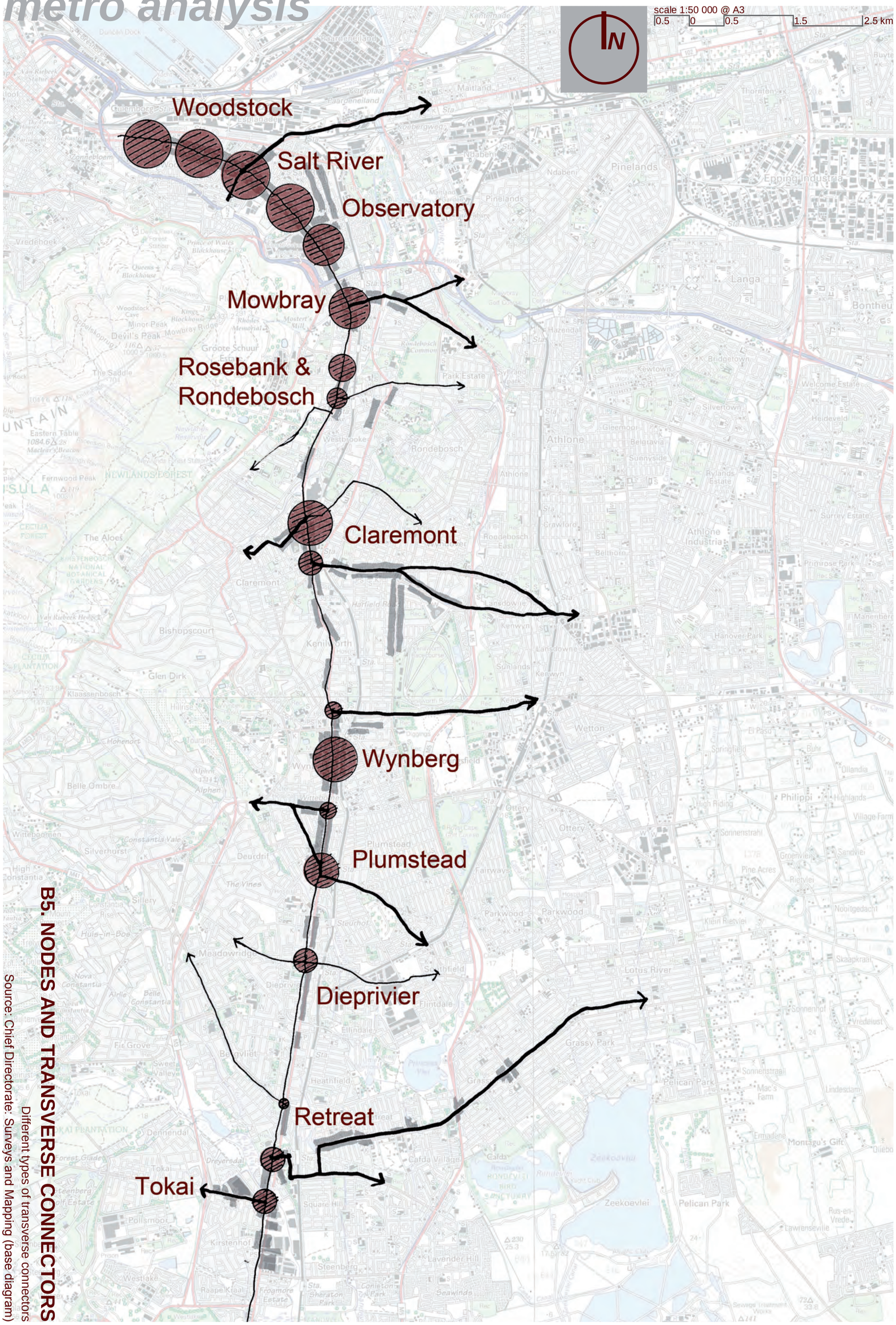


B4. ACTIVITY STRIPS

Activity edges along activity and mobility spines

Source: Chief Directorate: Surveys and Mapping (base diagram)

metro analysis



B5. NODES AND TRANSVERSE CONNECTORS

Different types of transverse connectors

Source: Chief Directorate: Surveys and Mapping (base diagram)

Market space is defined as:

- an area within the urban corridor where the market dominates or show interest.
- market space influences the geography of the action space.

The following factors are very important in influencing the economic systems:

- the nature of the urban systems.
- location within an urban development corridor.
- nature and intensity of activities.
- access and mobility.
- population density.

2.2.4 Social systems

Society as a complex inter-related network of individuals is always undergoing change. On the one hand, this change can be attributed to the ongoing invention of new technology that affects one's life and subsequently society; on the other hand, this change is also a result of an evolution in social relations and traditions (Albrechts, Nov 2006: p1487). These changes impact on the behaviour of individuals whose needs change and evolve, thus resulting in a fairly non-static society. The spatial aspect of society is thus affected as a result of this non-static nature and thus requires to be taken into consideration when being 'planned'.

Small actions make a difference in the lives of people – public toilets at places where people gather, small information centres to build up the trust of the people and to facilitate buy-in from the people, ATM services in proximity of retail services, shelter for people to wait... (Le Grange et al, 2004: p 5). Such actions play a vital role in the lives of people and improve the lives and well-being of the people on an individual as well as a collective level as part of the society.

Henri Comrie points out that social integration is brought about by trust and trust is facilitated through education and active engagement (Comrie, 2003: p 118). Many of the South African cities in a post-apartheid era display characteristics of fragmentation, disintegration, marginalisation and unequal distribution of resources as a legacy of past measures and actions. Institutions and facilities of varying nature as part of the urban fabric play a very important role in rectifying those negative qualities. Such institutions include schools, clinic, transport interchanges, shops... Urban public places of the city such as streets, squares, promenades, green spaces form an integral part of the social infrastructure in urban settlements.

The following are considered as important constituents of the social systems:

- buy-in and trust of the people in urban projects.
- structure of the urban fabric to reinforce the social systems.
- overlaps between the urban systems, economic systems and natural systems.
- the role of institutions such as schools and religious institutions and facilities such as public places as part of the social network.
- the meaning of traditional values as part of one's daily lives.

2.3 Typology of cities or typology of urban development

Much of the debate about the most efficient form of the city has been about the compact city (Figure 2.26) and the sprawling city (Figure 2.27). Consensus is slowly being reached that the compact city model provides a more sustainable solution to city-making. In his book *Designing the city*, Frey (1999: p 24-25) puts forward various arguments for and against the compact city and they are very helpful in providing an overview of the ongoing debate.

Arguments for the compact city by Frey:

- High degree of containment of urban development resulting in the conservation of the countryside.
- Affordable and efficient public transport for overall increased mobility and accessibility.
- Good public transport resulting in less traffic volume and less congestion as well as pollution.
- Mixed use as a result of high population density and therefore less car dependency.
- Better quality of the environment and preservation of resources.
- Lower heating costs as a result of denser urban fabric – urban heat island.
- Social mix due to high population density.
- Better quality of life as a result of enhanced opportunities for businesses and trading activities.

Figure 2.24 - Economic opportunities of informal nature along flow of energy on ramps over railway line leading to station in Khayelitsha (Source: Author's collection 17/08/09)

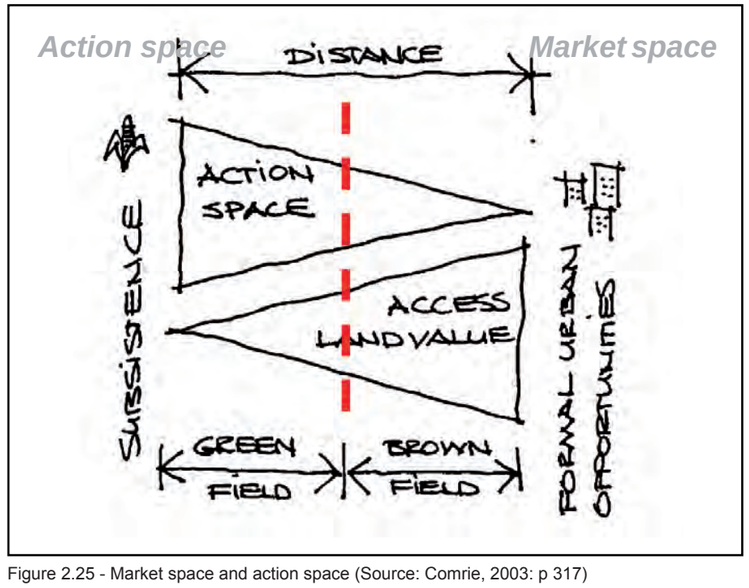


Figure 2.25 - Market space and action space (Source: Comrie, 2003: p 317)

Arguments against the compact city by Frey:

- Some people are fond of the suburban and semi-rural living.
- Rural economic development would be threatened as a result of focus of activities within existing cities and towns.
- Compact city cause more congestion and thus more pollution and also loss of privacy – Calcutta, Cairo, Rio.
- Social segregation as a result of high cost of living and accommodation in city centre.
- Passive solar gain works better with semi-detached and detached houses and bungalows.

Kevin Lynch's typology of city forms is also very useful in understanding the concept of urban form (Lynch, 1974: p 192-201):

- the **dispersed sheet** (Figure 2.28) – urban growth at the periphery of cities allowed to continue at a fast rate resulting in low densities, high running costs and long distances to be covered – Frank Lloyd Wright's Broadacre City comes to mind.
- the **galaxy of settlements** (Figure 2.29) – growth is bunched into relatively small units with the highest density at the centre and physically separate from each other – people would have to be convinced to live, work and shop in the small unit for it to be effective. Movement is predominantly by car supplemented up to a certain extent by public transport. This typology of city-making, for the sake of nostalgically creating the old medieval city centres, blindly ignores the current nature of cities – we are living in an era where more people are living in urban conditions than in rural ones.
- the **core city** (Figure 2.30 & 2.31) – one continuously packed urban fabric maximising the use of the urban land in trying to achieve the highest density possible. This is reminiscent of the traditional European medieval cities with minimum internal open and green spaces. This typology of city can be quite efficient in creating integrated and vibrant communities but the urban fabric can turn out to be very inflexible in adapting to change.
- the **urban star** (Figure 2.32 & 2.33) – lines of dense development radiating from a dense centre along axes with open land in between. The public transport system is regarded as the backbone for those different axes linking together the various centres of differing hierarchy and intensity. This typology displays some flexibility but would also place great pressure of urbanisation on the green wedges of open land between the axes - suburbia. The further away the fabric moves from the centre, the less efficient it becomes and the more congested the centre becomes.
- the **ring** (Figure 2.34 & 2.35) – high density development on the periphery with the centre kept open or low density development such as Rotterdam in the Netherlands. This typology can be regarded as a variation of the linear city with no beginning and no end. It demonstrates a flexibility to adapt to changing conditions but loses its efficiency when the radius of the ring gets bigger.

As important as it is to understand the form of cities by looking at individual typologies, cities are more complex than simply being classified into a specific type. As the title of the famous article *A city is not a tree* by Christopher Alexander (1972), cities happen as an overlap of various systems and networks. Cities are essentially urban fabric simultaneously displaying characteristics of more than one of the typologies. They are complex entities in nature.

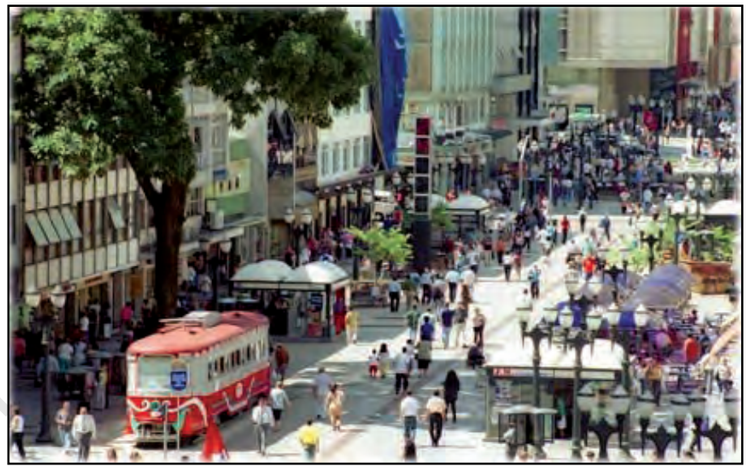


Figure 2.26 - Curitba: a well-known example of a fairly compact city with an efficient public transport system and good quality of urban spaces (Source: WordPress)

Figure 2.27 - Los Angeles: a sprawling city highly dependent on the private car as the means of transport (Source: Word of Stock)

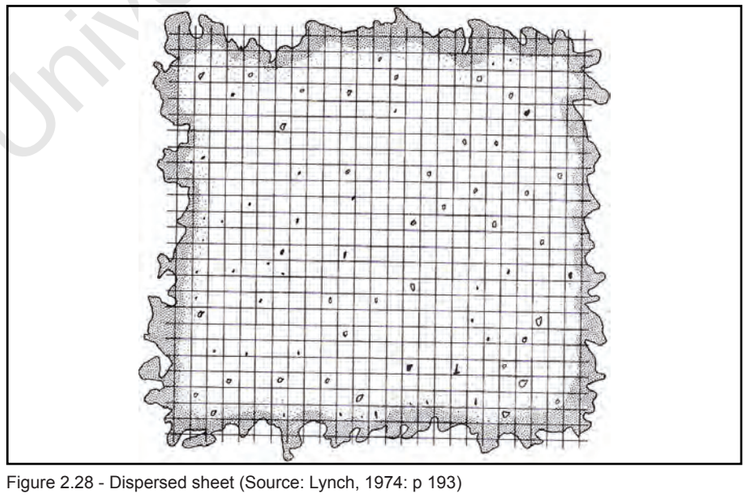


Figure 2.28 - Dispersed sheet (Source: Lynch, 1974: p 193)

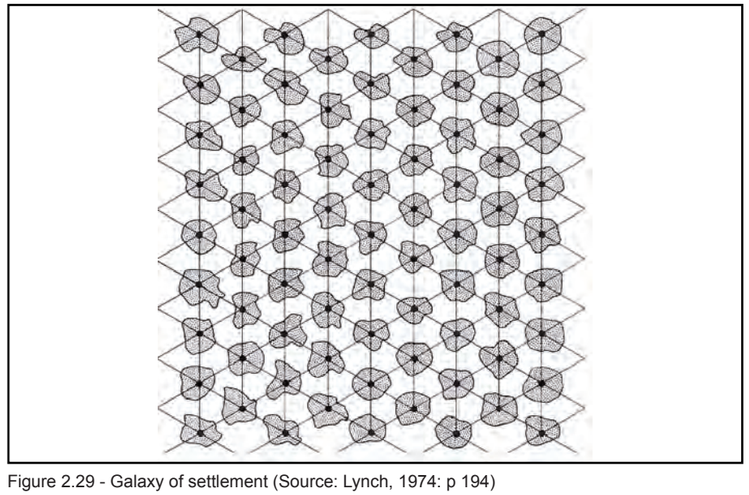


Figure 2.29 - Galaxy of settlement (Source: Lynch, 1974: p 194)

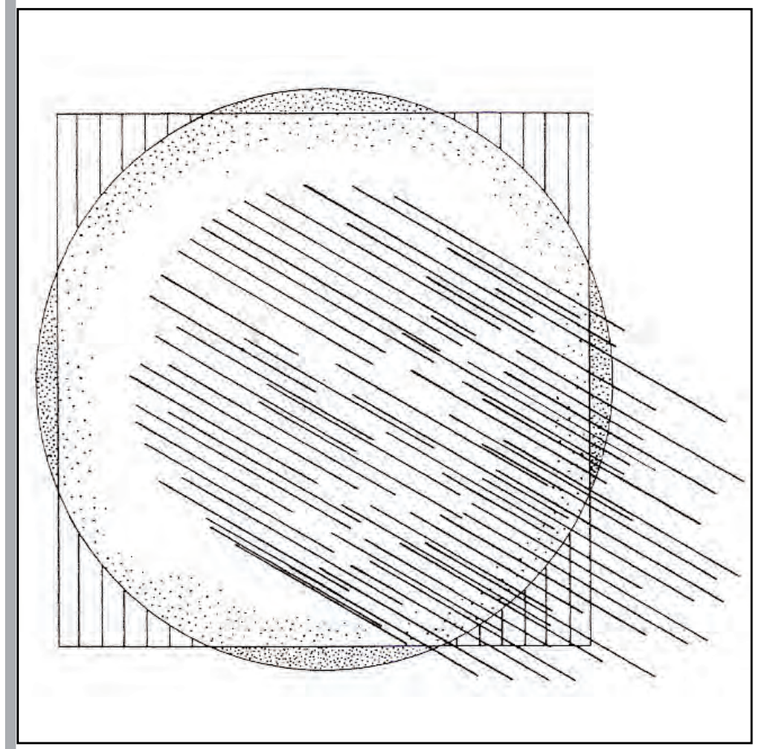


Figure 2.30 - Core city (Source: Lynch, 1974: p 196)

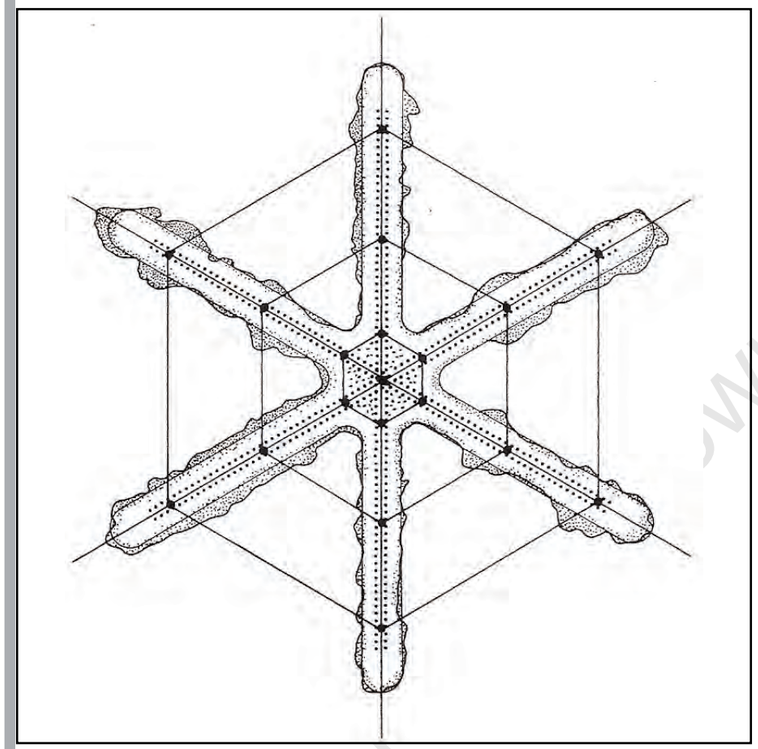


Figure 2.32 - Urban star (Source: Lynch, 1974: p 198)

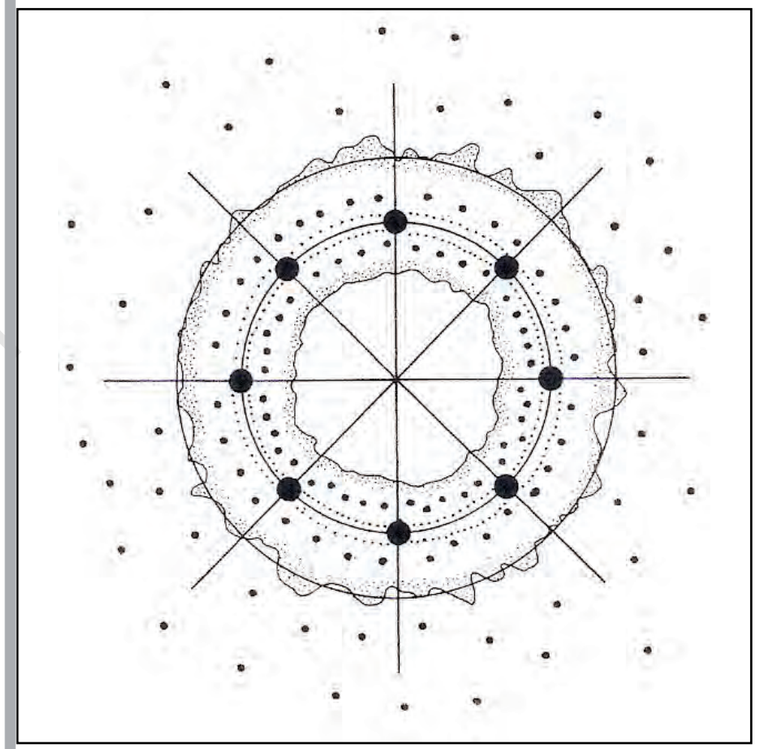


Figure 2.34 - Ring (Source: Lynch, 1974: p 200)

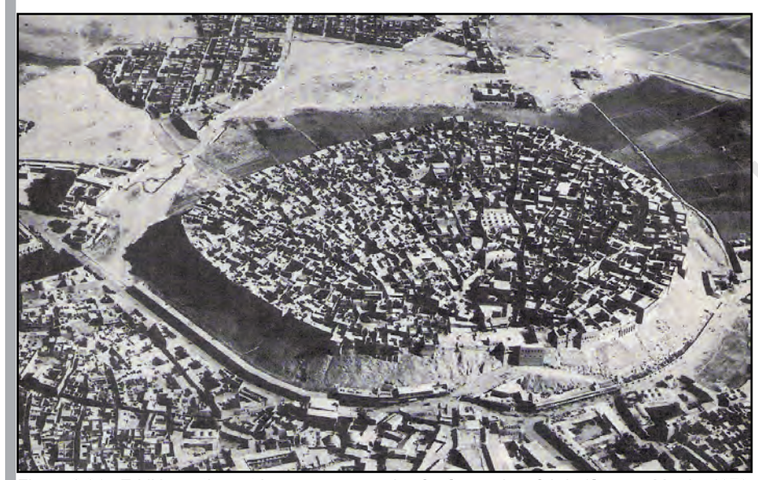


Figure 2.31 - Erbil in north-east Iraq as an example of a Core urban fabric (Source: Morris, 1979: p 9)

Figure 2.33 - Cape Town as a partial urban Star (Source: Google Earth)

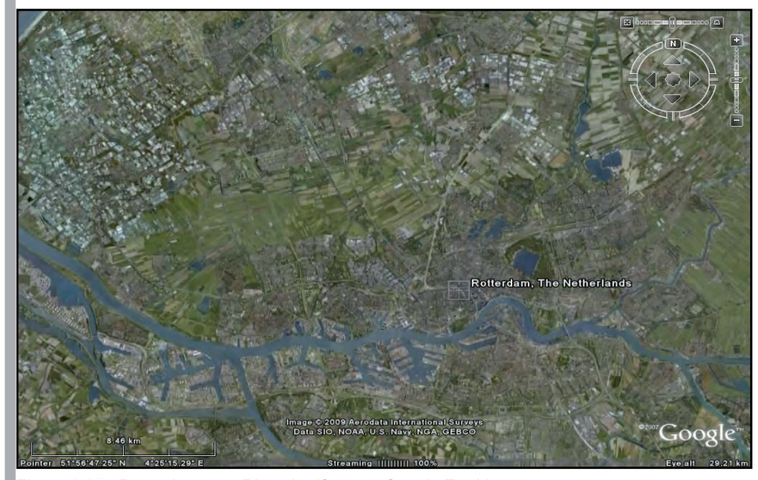
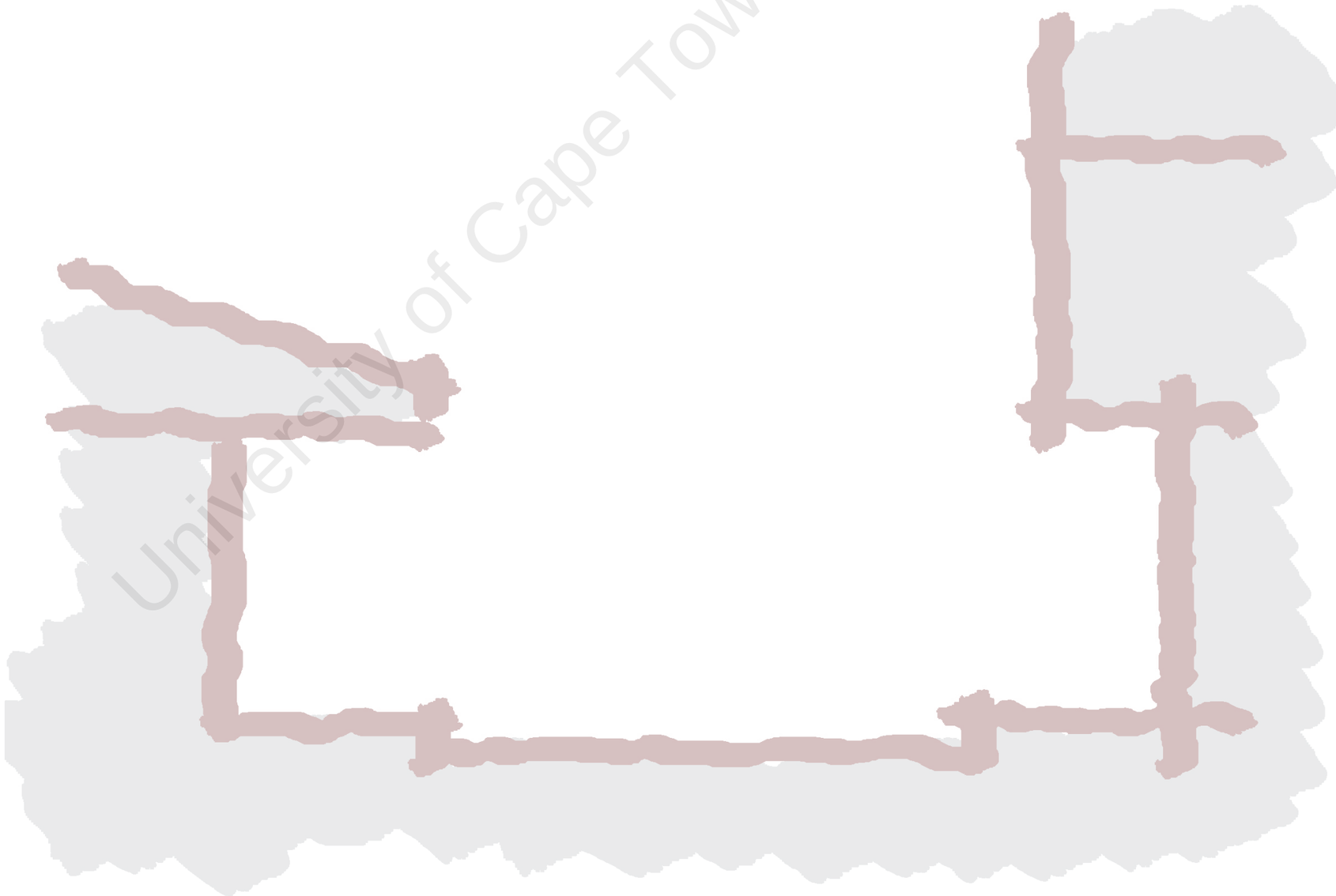


Figure 2.35 - Rotterdam as a Ring city (Source: Google Earth)

Chapter 3

Current practice: is the theory visible?



[Urban] anchoring of Retreat Road

Chapter 3: Current practice: is the theory visible?

Mentz (2007) writes: "*Due to our distinctive political history as a nation, few urban examples exist internationally to assist us in understanding our own condition, or provide clear-packaged answers to our critical urban problems*." Yet, constant reference is made to international precedents and previous examples when one is trying to explain one's vision. This can be partially attributed to the fact that local urban interventions are not as well documented as their international counterparts – thus the aim of this chapter is to consider some of the main local precedents in trying to understand and demonstrate how the gap between theory and practice can be bridged by making reference to the concepts of urbanisation and the relationships between the systems inherent in a city.

3.1 Case studies and precedents identified and evaluated

3.1.1 The concept plan for the Klipfontein Corridor

Description

Le Grange et al (2004) described Klipfontein Road as a movement corridor with wide road reserves that catered (and still does at certain points) for fast moving traffic and single-sided and isolated instances of commercial activity – it became a barrier that divided the various communities along its length. In response to this, the proposed *Spatial and Design Concept for the Klipfontein Corridor* (Figures 3.01 – 3.05) was drafted to guide future development. In the context of the initial concept for the Klipfontein Corridor, the term corridor was not regarded as just a simple east-west movement corridor, but rather as a complex system of smaller intersecting north-south corridors springing from a main east-west development corridor along Klipfontein Road. Its main principles guiding the objectives of the plan were:

- The promotion of equity.
- The provision of convenience and access.
- Increasing urban and social integration.

The proposal was to be achieved through integrating and coordinating public investment in a meaningful manner and promoting opportunities for private investment. It was also intended to inform the budgets of the various line function departments through governance at the provincial and local government level: transport, housing, economic development, community services. (Le Grange et al, 2004: p 4-5, 39)

Conclusion

Klipfontein Road was seen as a spine capable of stitching and integrating together the various inwardly-oriented urban areas all along its length. It was a vision of what Klipfontein Road as a sustainable and efficient urban strip could actually be. The proposed plan was only a way of identifying strategic interventions and was fairly conceptual in nature. It did however tackle a fairly broad range of issues and put forward a range of solutions, even though somewhat generic in nature, for the main issues identified.

Le Grange et al (2004: p 11) points out that the facilitation of the emergence of a corridor is more about identifying potential beginnings rather than defining end-state conditions. The plan was very clear about taking into consideration the incremental and dynamic nature of the urban fabric. It can actually be regarded as a very efficient way of guiding future development along Klipfontein Road along the lines of The Capital Web ideas in strategically focussing investments where in need.

3.1.2 Athlone Public Transport Facilities, Concept Plan

Description

The Athlone CBD had to provide retail and institutional facilities to large catchment areas as well compete with other existing commercial centres and proposed planned developments in the Klipfontein corridor. It was served by the Cape Flats railway line, the bus and the minibus-taxi services on Klipfontein Road

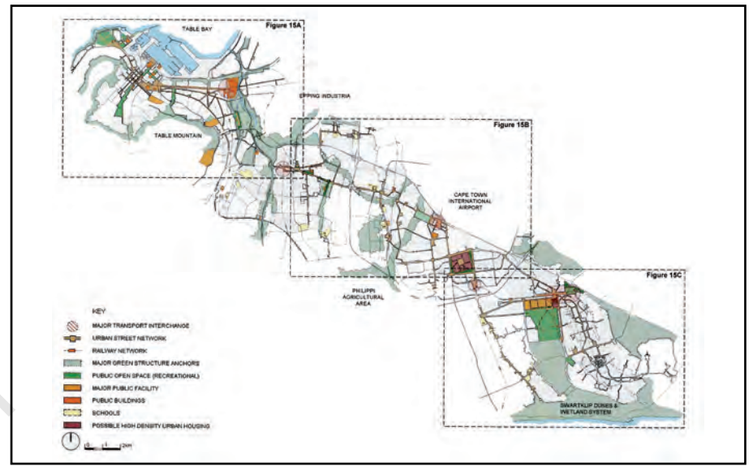


Figure 3.01 - Klipfontein Corridor concept (Source: Le Grange et al, 2004: p 34)
[See Figure 3.5 for bigger illustration]

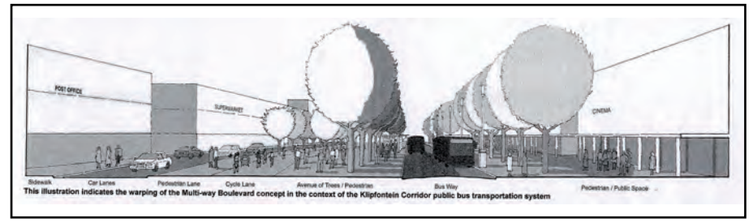


Figure 3.02 - Sectional perspective through the Multi-way Boulevard (Source: Le Grange et al, 2004: p 47)

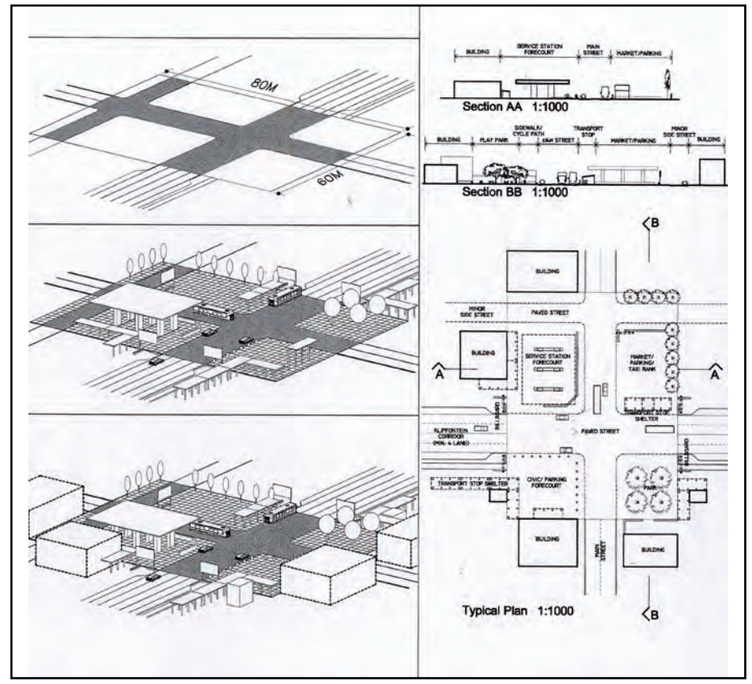


Figure 3.03 - Cross-route space (Source: Le Grange et al, 2004: p 50)

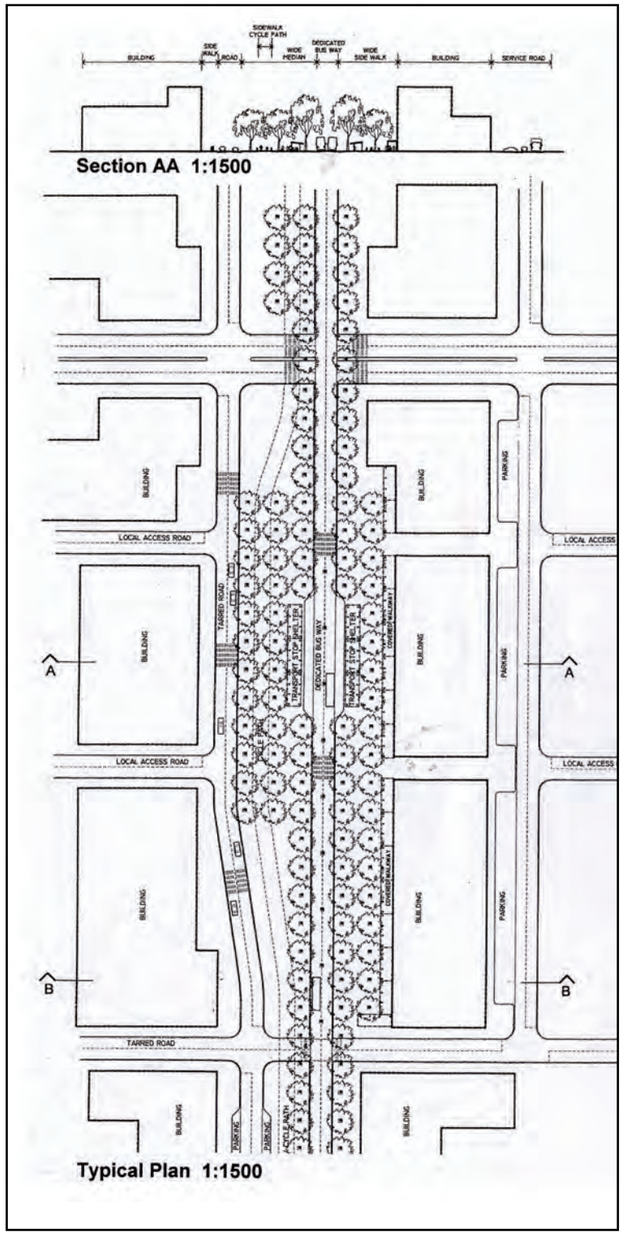


Figure 3.04 - The Multi-way Boulevard (Source: Le Grange et al, 2004: p 48)

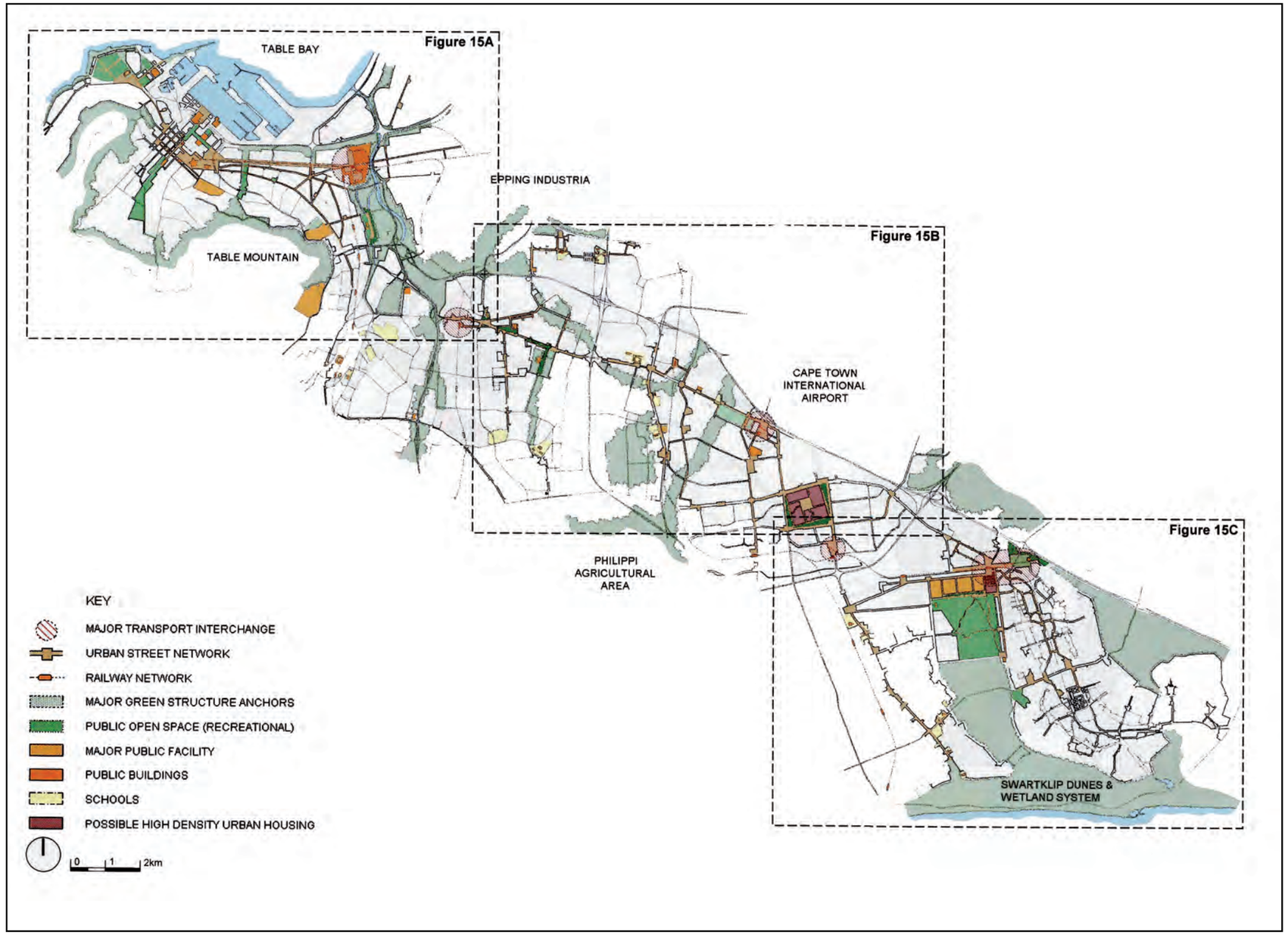


Figure 3.05 - Klipfontein Corridor concept (Source: Le Grange et al, 2004: p 34)

and the minibus-taxi services using the CBD as their terminal ranks. These ranks were dispersed throughout the CBD (Figure 3.06) and caused a great deal of traffic congestion, unsafe environments for pedestrians and clashing with the various street activities (mostly commercial one and traders). (Fongoqa Skade Toyi & Associates cc et al, 2000: p 1)

The situation was regarded problematic in the following ways (Fongoqa Skade Toyi & Associates cc et al, 2000: p 16-17):

- Congestion as a result of conflict between the various road users – taxis, private vehicles, informal traders and pedestrians.
- Lack of secure parking resulting in congestion of busier routes and underutilised parking in areas deemed less secure.
- Ranks on the outskirts of the CBD perceived to be unsafe while those in the centre were considered as safe.
- The area regarded as less attractive to potential customers and formal businesses due to lack of parking, high levels of congestion and crime.

The objectives of the proposed plan (Figure 3.07) were to (Fongoqa Skade Toyi & Associates cc et al, 2000: p 1):

- *Improve traffic circulation in the CBD.*
- *Improve public transport accessibility.*
- *Improve pedestrian flow through the CBD.*
- *Provide adequate facilities for public transport passengers.*
- *Provide safe and secure environment for public transport passengers.*
- *Enhance the urban fabric in general, but specifically at the public transport rank(s).*

The following opportunities were anticipated to be generated by the proposal (Fongoqa Skade Toyi & Associates cc et al, 2000: p 18-19):

- Consolidation of taxi ranks into fewer areas to relieve congestion, increase efficiency for commuters and make policing easier.
- Athlone CBD previously identified by various attempts of restructuring the city: the MSDF, the MuniSDF.
- Athlone location at the intersection of Klipfontein Road and Jan Smuts makes it an ideal location for future development.
- Possibility of a linear market due to the presence of numerous small traders who would prefer to trade outside a designated central market place.

Conclusion

The narrowing of the road and rationalisation of the taxi ranks proposed by the plan increases the pedestrian friendliness of the area and privileges the pedestrians over the taxis (Figure 3.08). The security and safety issues of the area have been tackled through the pedestrianisation of the area with added benefits of better economic opportunities.

This urban intervention was regarded as a first stepping stone towards attracting further private investment for the area through an initial strategic public investment towards the re-structuring and upgrading of the public transport facilities. It was also a good attempt in terms of bettering the quality of the public realm.

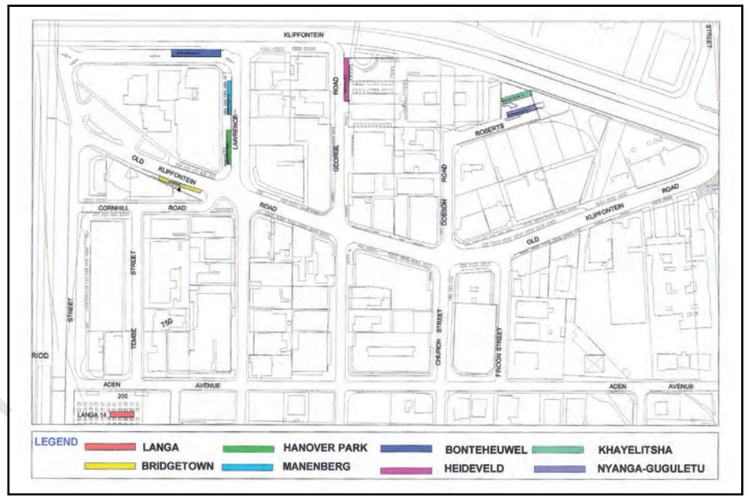


Figure 3.06 - Fragmented pattern of the transport system of the Athlone CBD (Source: Fongoqa Skade Toyi & Associates cc et al, 2000: Fig 7)

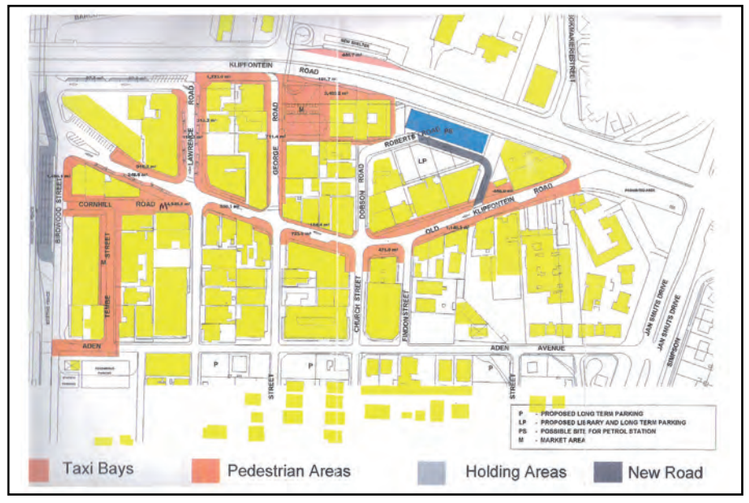


Figure 3.07 - Preferred layout Two (Source: Fongoqa Skade Toyi & Associates cc et al, 2000: Fig 26)

Figure 3.08 - View showing implemented plan for Old Klipfontein Road in Athlone closer to train station (towards left hand side of Figure 3.7) showing an effort at improving the quality of the public realm, facilitating pedestrian flow, traffic calming and rationalisation of taxi ranks (Source: Author's collection 16/10/09)

3.1.3 Dignified Places Programme (renamed Quality Public Spaces - QPS)

Description

The Urban Design Branch (2003: part 1) of the City of Cape Town notes the following as some of the broader problems of Cape Town:

- Steady and accelerated destruction of the magnificent natural environment of the city.
- Extreme inequity in access to the city's resources and opportunities – social and economic benefits of integration not present as poor communities are trapped within cells of poverty and limited resources.
- Community facilities and services experience severe operational problems.
- Uncoordinated and irrational distribution of community facilities.
- Mono-functional use of community facilities resulting in duplication of facilities and services.
- Lack of investment in the creation of new public open spaces.

The planning and design of poor communities has not accommodated either private or public locations for commercial activities or markets – an approach that has only ended up in reinforcing survivalist trading as a means of income. These activities take place in unhygienic conditions such as processing and cooking of meat on the side of roads (Figure 3.09).

"*When the quality of public spaces is good, they improve the enjoyment of these activities and give confidence and a sense of permanence to the place.*" (Urban Design Branch, 2003: part 1)

It was aimed at the making of good quality of public open spaces with the potential of attracting future investment for the upgrading of the context of the intervention as shown in Figure 3.10 & 3.11, just to name some examples. The location and nature of the various projects as part of the Dignified Places Programme was influenced by the following factors (Urban Design Branch, 2003: part 2):

- Principles and proposals of the MuniSDF.
- Areas where public investment in community facilities, environmental upgrade and public transport facilities have been made.
- Areas of high intensity informal commercial activity characterised by lack of safety, hygienic conditions and facilities.

Conclusion

Barbara Southworth, a graduate of the Urban Design programme at the University of Cape Town, was very influential in the making of the Dignified Places Programme. Subsequently, the latter demonstrate an alignment with the design principles and theories taught at the educational institution – one where the theories and ideas of David Crane's Dynamic City and The Capital Web have been very influential. The idea of strategically locating public open spaces of good quality (Figure 3.12) was meant to act as a magnet for future investment, urban spaces enhancing the social systems by accommodating various formal and informal activities in the communities and also providing a space of relief for the community.

The main criticism of the programme can be levelled at the management side of the various projects after their completion. This is typical of the level of governance of the post-apartheid South African cities which result in an enormous waste of resources. Confusion about who runs and maintains a project once completion has been achieved is not something new. For instance, the Oliver Tambo Square in Langa was implemented to support the Tsoga Environmental Education Centre to provide environmental awareness. However, the Tsoga Environmental has been converted into a temporary computer centre when the NGO organisation Tsoga lost their funding (Open Green Map). For security reasons, fences have been put up thus separating the community square from the facilities it was initially meant to support.

Figure 3.09 - Braai on the sides of the road in unhygienic conditions in Khayelitsha is commonplace (Source: flickr 15/10/09)

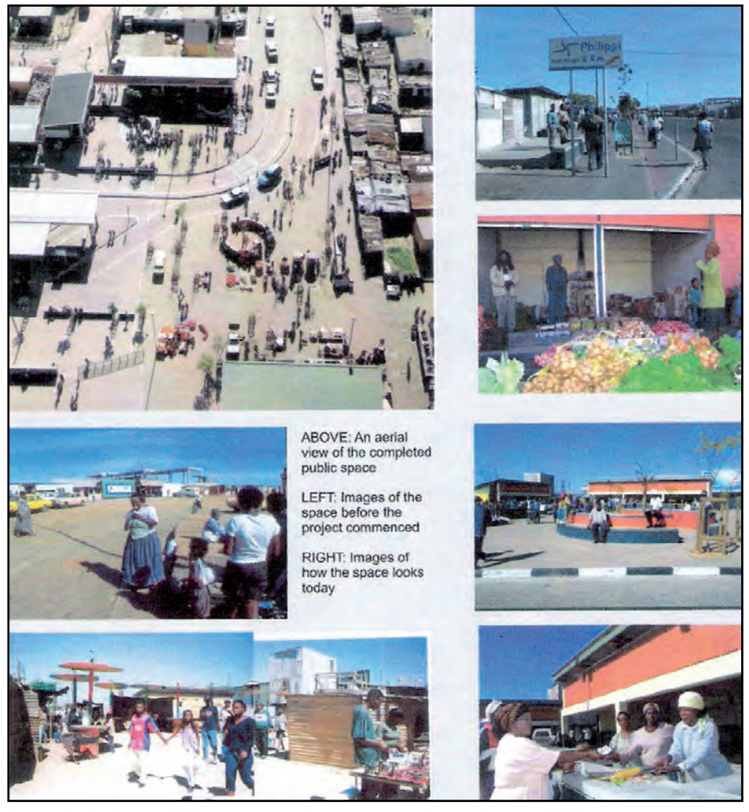


Figure 3.10 - Philippi Station upgrade (Source: Urban Design Branch, 2003)

The new community hall and library on Ingulube Drive in Philippi as they were before the public space project started. The space behind the hall is a stormwater

ABOVE: After the completion of the plaza, pool and sportsfields. The stormwater detention pond was developed as a dual purpose facility to provide a much needed sports facility. The land around the hall was vacated ahead of the implementation of new state subsidised housing.

Figure 3.11 - Public square next to the community hall and library in Philippi (Source: Urban Design Branch, 2003)

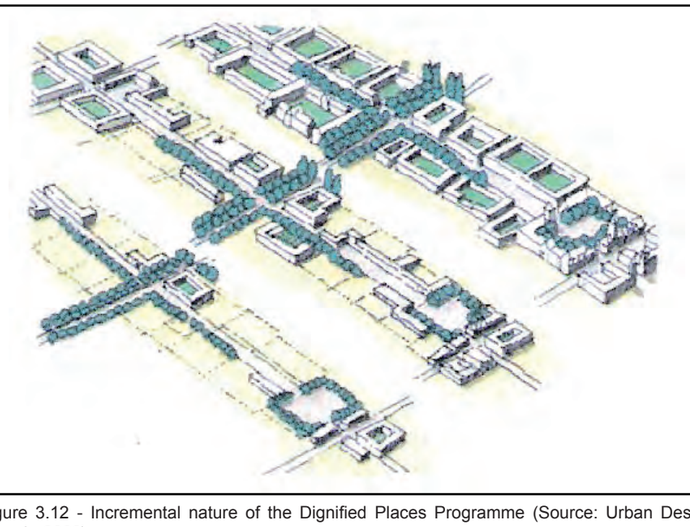


Figure 3.12 - Incremental nature of the Dignified Places Programme (Source: Urban Design Branch, 2003)

3.1.4 Public square in Observatory as part of the QPS programme

Description and Conclusion

The design of this public square arose out of the need for a football viewing site as well as the need for integration between various public institutions and facilities. The intentions of the design (Figure 3.13) go further beyond the boundaries of the site in trying to reinforce the pedestrian links through Station Road between the train station and Lower Main Road and subsequently Main Road. There are a number of important institutions that could potentially contribute to the quality of the space by adopting a more integrated relationship with the square – Metro Police to the west; crèche, recreation and community hall to the north-west and church to the north. It is aimed at providing better integration of those public institutions with the surrounding urban fabric by acting as a forecourt for those institutions.

The square is composed of three inter-linked spaces defined by low walls acting as informal seating. The first one that is closest to Station Road is a hard-landscaped one reinforcing the east-west pedestrian links with structuring elements such as trees and the low wall. The middle second one is a soft-landscaped space called The Village Green and provides some visual relief in this fairly compact and dense portion of the urban fabric. The third space is meant to act as a forecourt to the church and the community hall with the possibility of trading activities.

The main criticism of this space as a potential integrator is that the relationships between the first two *inter-linked* spaces are actually negated as a result of the low wall and a lack of physical connections between the two spaces (Figure 3.15). The low wall physically divide the two spaces – especially in the instance that it is meant to be a space for football viewing where one wants an easier flow of movement as opposed to trying to contain the movement.

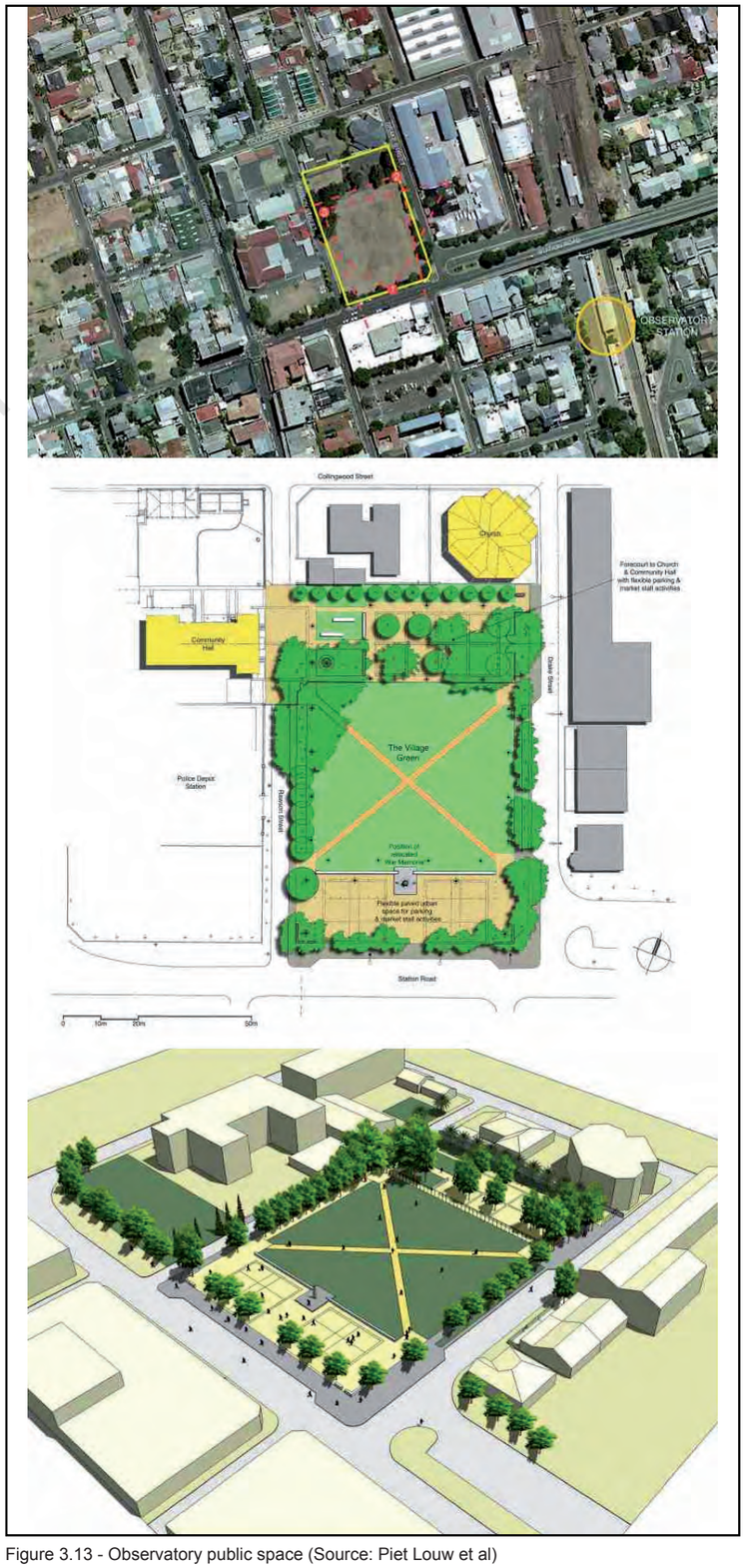


Figure 3.13 - Observatory public space (Source: Piet Louw et al)

Figure 3.14 - View from Observatory public space towards Lower Main Road and Main Road (Source: Author's collection 29/08/09)

Figure 3.15 - View towards The Village Green showing low wall (Source: Author's collection 29/08/09)

Figure 3.16 - View from Observatory public space towards train station (Source: Author's collection 29/08/09)

3.1.5 Violence Prevention through Urban Upgrading (VPUU) in Khayelitsha

Description (Source: VPUU)

Violence Prevention through Urban Upgrading is an initiative funded jointly by the City of Cape Town and the German Development Bank aimed at spearheading an upgrading programme in Khayelitsha. Some of the main key elements of the various interventions in the area of Khayelitsha are summarised below (VPUU website):

- Approach and methodology includes involvement from the analysing phase through to operation and maintenance.
- Decision-making is influenced by analytical elements of the current situation through a baseline survey – incidents of crime are recorded and updated on a weekly basis through patrolling initiatives and household surveys.
- Participation processes involve community members and their representative bodies for prioritisation of interventions.
- Individual interventions are developed in partnership with local residents and their representative bodies such as the VPUU Reference Group and the Khayelitsha Development Forum.
- Implementation is done through the use of local resources as far as possible.
- VPUU promotes an initial commitment of creating well managed and maintained spaces and project interventions.
- Crime prevention is to be achieved at the various levels within the four Safe Node Areas.
- Improvement of the socio-economic situation is to achieved through crime prevention: situational crime prevention, social crime prevention and institutional crime prevention.

Understanding clearly the aims of the initiative with a view to understanding *the bigger picture* can only encourage the involvement of various individuals from the community leading to community participation. Situational crime prevention takes place by changing the physical and environmental conditions that generate crime and fear of crime through better urban design. Social crime prevention is achieved through education and

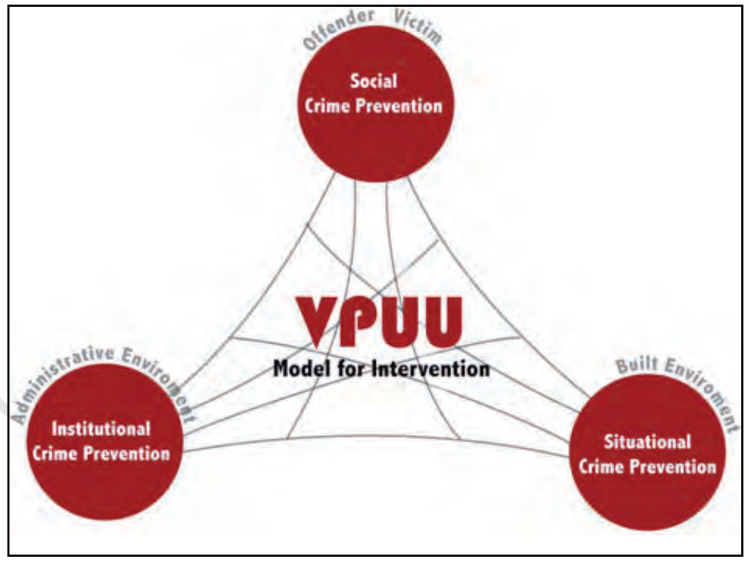


Figure 3.17 - VPUU's model for intervention (Source: VPUU)

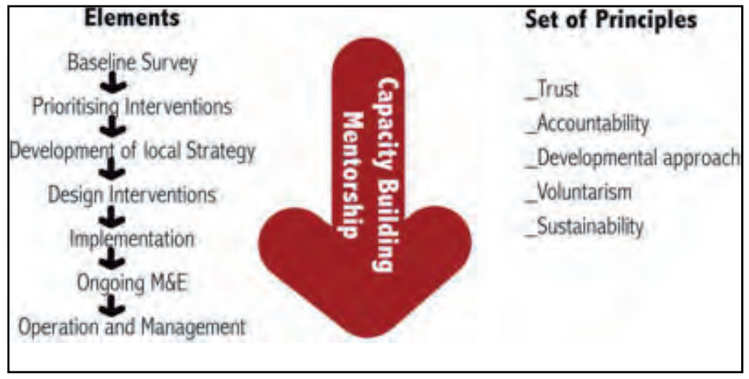


Figure 3.18 - Principles of intervention (Source: VPUU)

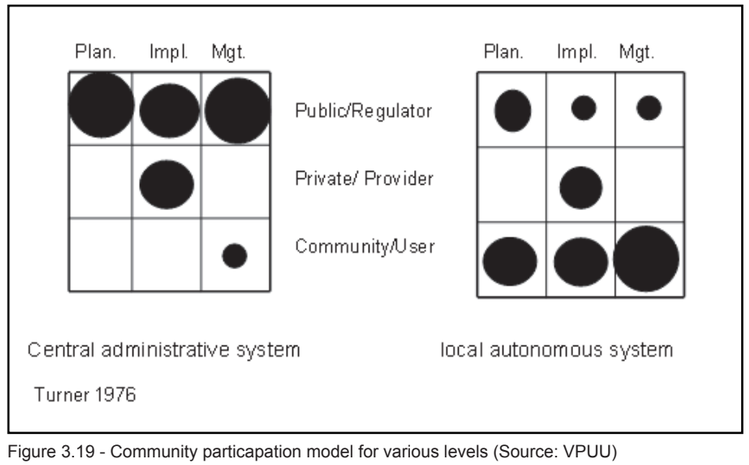


Figure 3.19 - Community particapation model for various levels (Source: VPUU)

Figure 3.21 - Consolidation of informal traders into a mixed-use building with an active box (Author's collection 17/08/09)

Figure 3.22 - Harare Square with future active box (Author's collection 17/08/09)

Figure 3.23 - Precinct 3 with an active box (Author's collection 17/08/09)

Figure 3.24 - Precinct 3 with an active box next to a major pedestrian route and the road (Author's collection 17/08/09)

Figure 3.25 - Pedestrian safe route through Peace Park with an overlooking active box (Author's collection 17/08/09)

Figure 3.26 - Active box overlooking Peace Park and pedestrian safe route (Author's collection 17/08/09)

Figure 3.27 - Pedestrian safe route from Peace Park to Precinct 3 with an overlooking active box (Author's collection 17/08/09)

Figure 3.20 - Overall VPUU framework (Source: Kathrin Krause for VPUU)

thus the elimination of potential criminals. With the help of the community, various interventions ranging from the resettlement of dwellers, upgrading of existing informal housing areas, upgrading of commercial areas, upgrading of transport facilities, provision of better public and private services, better utilisation of open spaces and safe space along major pedestrian walkways through the introduction of *active boxes* as well as buildings supporting mixed-use activities in a traditionally mono-functional residential are aimed at facilitating the process of situational and social crime prevention and consequently community crime prevention. This can thus act as a platform for kick-starting the adoption of the principles of crime prevention at the administrative level, subsequently having a ripple effect throughout the administrative institutions and agents across the City of Cape Town (see Figures 3.17 & 3.18).

Planning, implementation and management are three key areas of a project at which community participation can take place. There are three types of main users (stakeholders): public in the form of a regulator, private in the form of a service provider and the community in the form of the users. The aim of the VPUU model is to enable the community to take charge of the three areas of interventions (Figure 3.19).

Conclusion

The VPUU programme demonstrates a very good understanding of the context of the interventions and the upgrading as well as the systems present (Figures 3.20 – 3.27). It represents a very good attempt at bringing the best out of a desperate situation that was a result of the legacy of apartheid. It acknowledges the incremental nature of urbanisation coupled with the ideas of David Crane. The community demonstrates a proper belief in the outcomes of the initiative with them taking ownership and being proud of the outcomes of the efforts put in. Integration happens at the various levels ranging from urban, social to institutional.

The main criticism that can be levelled at the VPUU programme is the possible adoption of tidying up approach not catering for the informal sector. For instance, it is proposed that the informal traders outside the Khayelitsha train station are to be consolidated into various trading groups in the near future so as to be relocated inside the building currently in construction. This ignores the fact that the informal trading happens where it happens as a result of a flow of energy to and from the train station.

3.1.6 Willowbridge in Bellville

Description

At Willowbridge, the idea of a shopping mall was re-invented into that of a *retail village* where it was aimed at providing a design that was responsive to the context (Figure 3.28). "*It had to be open to the air and embody the notion of a linear retail high street.*" (Urban Green File, 2009: p 32) The outcome is a 260m long retail street parallel to Carl Cronje Drive on the front and the Elsieskraal River at the back punctured by three public squares at ground level and a series of pedestrian bridges at first floor level (Figure 3.29 & 3.30). The main central circulation route is opened to the sky and unlike a traditional shopping mall like Cavendish Square in Claremont: it is partially extroverted with some of the retail outlets facing onto an external circulation route.

Figure 3.28 - A partially extroverted nature of Willowbridge (Source: Author's collection 19/09/09)

Figure 3.29 - Main internal circulation route leading into 1 of the 3 public squares - both opened to the sky (Source: Author's collection 19/09/09)

Figure 3.31 - Building in a car park (Source: Author's collection 19/09/09)

Figure 3.30 - Willowbridge ground level plan (Source: Urban Green File, 2009: p 33)

Conclusion

Willowbridge is far from being a traditional shopping mall – it is however still a long way off from being called a good example of an urban project. The developers claim that the design embraces the unique features of the site and responds sensitively to its context but at ground level, there is no acknowledgement of the river at the back of the building. Willowbridge does actually turn its back to the river. Furthermore, like a traditional shopping mall, it still gives one the impression of a building in a car park and in no way contributes to the public realm by being set back from the road to make *space* for the cars (Figure 3.31).

But at the end of the day, it is a good move in the right direction though by moving away from the traditional shopping mall.

3.1.7 Revitalisation of the Grand Parade Precinct

Description

The Revitalisation of the Grand Parade was initiated by the City of Cape Town and the Cape Town Partnership with an aim to transform the run-down Grand Parade (mostly used as a parking area) into a high quality public space. The Grand Parade Precinct holds a highly important historical role due to the previous events it has hosted as well as various historic buildings fronting onto it (ARG Design et al, 2007: p 3):

- Nelson Mandela's speech in 1991 after he was released from prison.
- The Castle of Good Hope.
- The City Hall.
- Location of the Company Gardens in its close vicinity.

Some of the various design informants as part of the whole process were as listed below:

- integration with the surrounding context through better responsive edges, for instance the one between the Grand Parade and the Castle of Good Hope.
- a clearer legibility of the public space through better

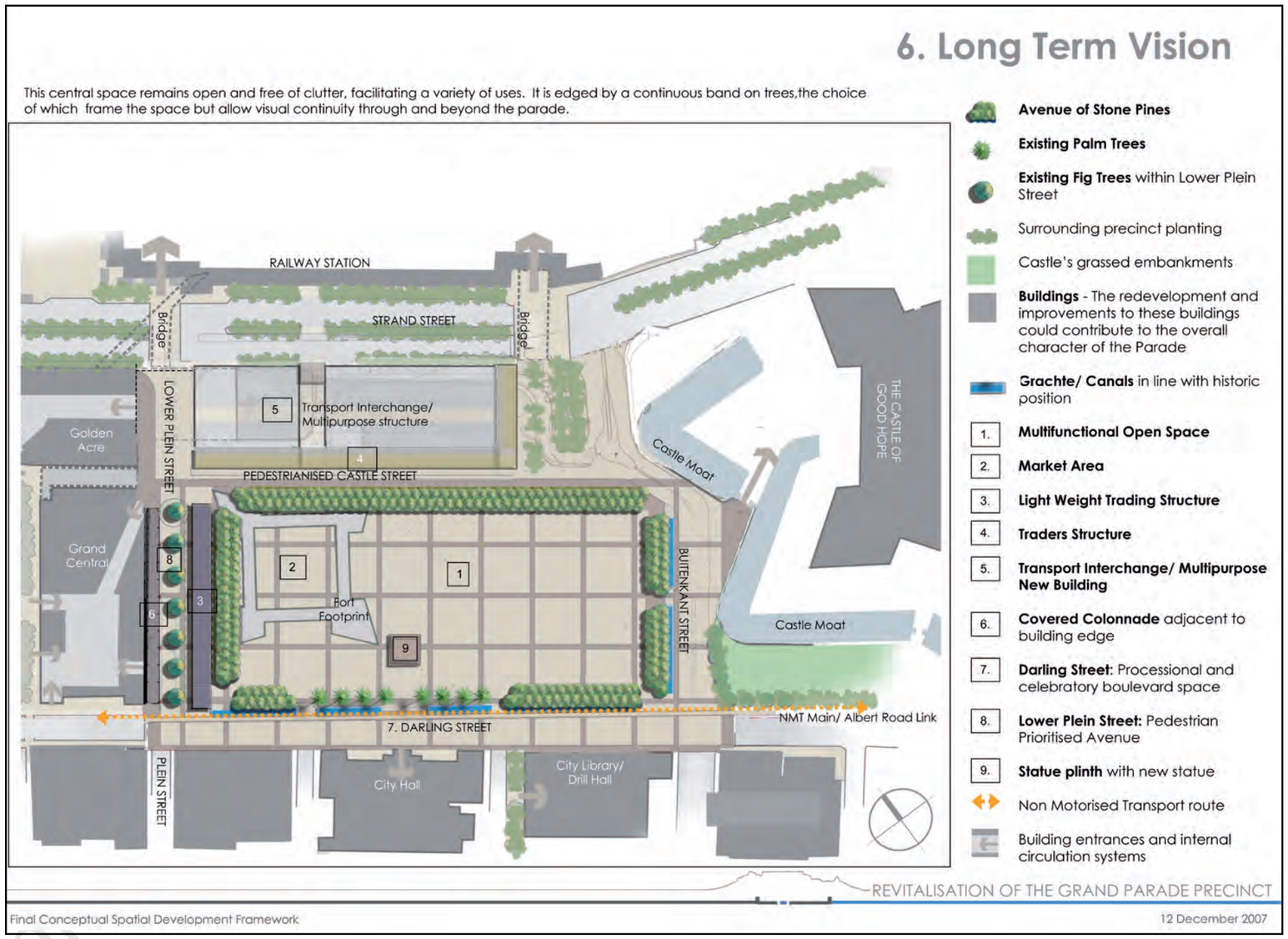


Figure 3.32 - Proposal of the revitalisation of the Grand Parade (Source: ARG Design et al, 2007 : p 20)

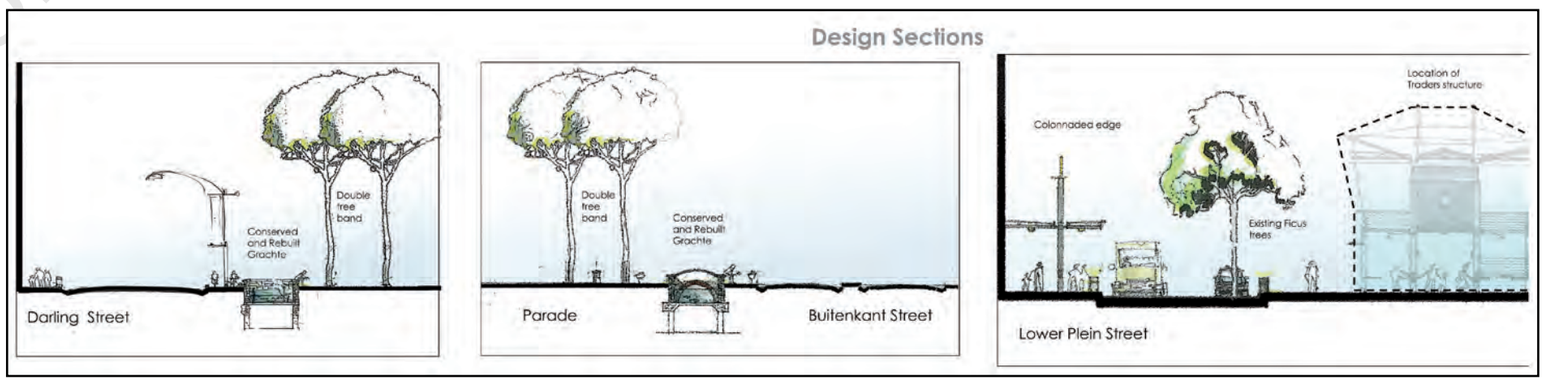


Figure 3.33 - Design sections for Grand Parade showing the reinstatement of the historical grachts and treatment of edge conditions (Source: ARG Design et al, 2007 : p 21)

- structuring elements such as gateways, better definition of the edges and the use of scaling elements such as trees.
- heritage elements such as the historical grachts and stone pines that used to define the edges.
- the existing built form and the movement linkages as a means of integrating with the surrounding.

Conclusion

The revitalisation of the Grand Parade (Figures 3.32 – 3.34) is a very good attempt at providing a public space of high quality – one that would leave a lasting impression in the mind of a visitor to the City of Cape Town since it can actually be regarded as a *forecourt to Central Cape Town*. Peterson (1979: p 2) defines a space as an urban element as the interplay and relationship between the space in itself and the block(s) or object(s) that define the space – not individually. The proposal of the Grand Parade aims at better integration of the urban fabric of its precinct by relating better to its edges. Furthermore, the Grand Parade has a major role to play as a social integrator having been made into the official fan park for the 2010 FIFA Soccer World Cup.

However, the main criticism to be levelled at this proposal is the resolution of the edges – namely the ones adjacent to the Castle of Good Hope and the City Hall (Figure 3.35). One feels that the presence of important anchoring elements such as the Castle of Good Hope and the historically important City Hall deserves more of an acknowledgement that has been proposed and is being implemented.

3.1.8 Claremont node: transport interchange and surrounding areas

Description and conclusion

Over the course of the last decade or so, Claremont has grown considerably in stature and the role it plays as an urban node in the overall bigger picture (Figures 3.37 & 3.38). NM & Associates

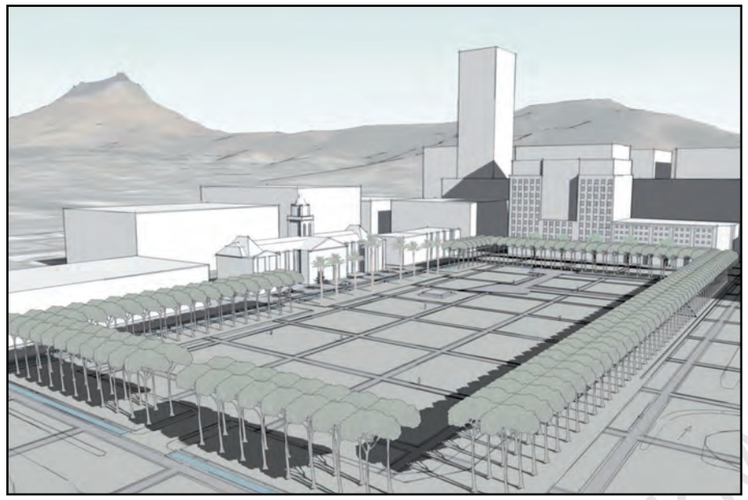


Figure 3.34 - 3D representation of revitalised Grand Parade (Source: ARG Design et al, 2007 : p 22)

Figure 3.35 - The City Hall as an iconic anchor for the Grand Parade (Source: ARG Design et al, 2007 : p 25)

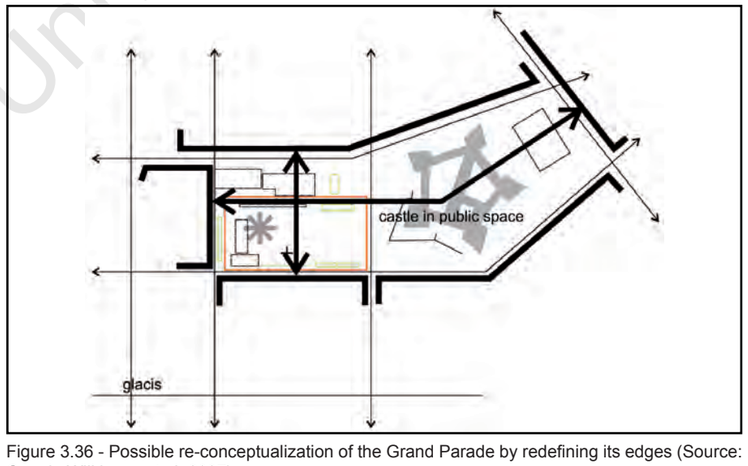


Figure 3.36 - Possible re-conceptualization of the Grand Parade by redefining its edges (Source: Comrie Wilkinson et al, 2007)

Figure 3.37 - Main Road in Claremont towards Newlands showing the influx of energy and investment over the last few years (Source: Author's collection 16/10/09)

Figure 3.38 - Uncoordinated development in Claremont with no urban coherance: some buildings have colonnades, others overhangs and some nothing... (Source: Author's collection 16/10/09)

Figure 3.39 - Some contribution to the public realm with colonnades on Main Road and building behind Cavendish Square (Source: Author's collection 16/10/09)

(2002) claim that the growth of Claremont has been the result of piecemeal developments in a fairly uncoordinated manner contributing rather poorly to the public realm (Figure 3.39). "*The streets and sidewalks of Claremont have increasingly adopted a backyard quality*" (NM & Associates, 2002: p 2-1).

The Claremont transport interchange is the sixth largest interchange in the Cape Metropolitan Area catering for roughly 15 000 commuters on a daily basis (NM & Associates, 2002: p 3-3). The aim of the proposed framework for the transport interchange was to define the latter's spatial role in its broader context (NM & Associates, 2002: p 1-4). Thus, according to NM & Associates (2002: p 2-1), the aim of upgrading the transport interchange was to create (Figures 3.40 & 3.41):

- *a public spatial framework for the C.B.D interchange area that provides a sequence of secure and attractive pedestrian environments.*
- *the identification of an appropriate spatial framework for short and medium-term growth around the transport interchange.*
- *clarity for public transport flows and stops.*
- *positive areas to support informal trade.*
- *cohesive public gateways into primary retail areas.*

This was a very good attempt of urban renewal and urban anchoring – however, it is a pity that Main Road acted as a barrier for the implementation of this intervention. Main Road still acts as a barrier between its two sides and the transport interchange upgrading could have been better used as an urban integrator – for instance traffic calming on Main Road to facilitate pedestrian movement across.

The booming of Claremont as a metropolitan node has not been exclusive to a linear model of urban development along the linear Main Road – there has been a ripple effect across the fabric of Claremont (Figure 3.42). Streets parallel to and intersecting Main Road have witnessed an increase in small to medium-scale business with a great deal of small shops and offices locating themselves there. The most noticeable development though is probably the transformation of The Link into Cavendish Connect

Figure 3.40 - Upgraded Claremont transport interchange contributing to the public realm in terms of better spatial qualities, trading opportunities, catering for pedestrians with large generous pavements and proper waiting areas opposite the Werdmuller Centre up Ralph Street towards Main Road (Source: Author's collection 16/10/09)

Figure 3.41 - Upgraded Claremont transport interchange contributing to the public realm in terms of better spatial qualities, trading opportunities, catering for pedestrians with large generous pavements and proper waiting areas opposite the Werdmuller Centre up Newry Street towards Main Road (Source: Author's collection 16/10/09)

Figure 3.42 - Shops and offices in street behind Cavendish Square (Source: Author's collection 16/10/09)

Figure 3.43 - Cavendish Square adopting a more extroverted nature with a central pedestrian axis and a street market (Source: Author's collection 16/10/09)

new positive attitudes of shopping centres - still a long way to go though ...

Figure 3.44 - Non-responsive edge of Cavendish Square (Source: Author's collection 16/10/09)

and the consolidation of Cavendish Square and Cavendish Connect into one retail precinct (Figure 3.43). The two shopping malls have adopted a more extroverted nature contributing to the conversion of the street in between them from a mono-functional one into one as a pedestrian axis and a street market with some of the shops and restaurants opening directly onto it.

However, there is still a great deal of distance to be covered before *shopping centres* like Cavendish Square can be transformed into a positive urban element. The introduction of two new pedestrian bridges at first floor level linking Cavendish Connect with Cavendish Square and the non-responsive side facades does not contribute to the bettering of the public realm (Figure 3.44).

3.2 Synthesis of investigation of case studies and precedents

Precedents and case studies are only relevant if they can contribute to the understanding of the nature of the problem and providing solutions towards dealing with the problem. The previous section of this dissertation coupled with the second chapter helped in informing the following section by answering two important questions:

- *how it was done* by looking at how various previous problems were tackled and trying to understand whether the solutions proposed had the desired outcome or not.
- *how it can be done* by defining the informants and principles of design.

The following are considered as important principles of urbanisation in informing the design and implementation processes:

- Sustainable development – current urban growth making use of resources in a wise and effective way such that future generations are not compromised.

- Clear legibility of the urban structure – to facilitate easy orientation and identification with an urban place by making the latter unique and memorable: the craving to be in a specific place...

- Incremental morphology of the urban fabric – the urban fabric does not change overnight: it is a sequential bit-by-bit process influenced by various factors such time, money and proper resources.

- Catalytic nature of urban design and subsequent urban projects – urban projects are small catalysts and sudden input of energy in guiding and influencing the incremental morphology of the urban fabric.

- Introduction of mixed-use activity in mono-functional areas – the overlay and blending of systems, functions and uses to create a diverse society providing for all.

- Urban integration – integration as opposed to fragmentation and segregation: integration through spatial means, uses, functions and social means for instance.

- Hierarchy of the urban grain – urban grain determines the building types and land uses and vice versa and different configurations of the urban grain create different hierarchies and orders.

- Interplay between the public and private realms – proper definitions of the two realms but also the blurring of boundaries where required: the two cannot exist in isolation with each one supporting the other.

- High quality of public spaces as urban anchors – public spaces as part of the public realm is very important urban structuring elements as a platform for development.

- Nature of the plan – flexible so as to adapt to change and incremental growth.

3.3 Principles and informants of design

The planned man-made cities of today are lacking some of the essential qualities of the old self-made cities (Alexander, 1972: p 401). The following are regarded as a list of generic sets of principles and informants of design.

3.3.1 Responsive and animated edges

Leon Krier (1984) defines a street as a space of distribution and orientation as well as one of economic and social exchange. The

Figure 3.45 - Office building on Dorp Street with bottom floors dedicated to parking creating non-responsive edges to the street (Source: Author's collection 18/02/09)

Figure 3.46 - Responsive edges to Long Street (Source: Author's collection 18/02/09)

edges of the urban block (and buildings) define the street: the latter is only animated if the edges respond and contribute to the character of the street (Figure 3.46) as opposed to adopting a *backyard* attitude towards the street (Figure 3.45).

3.3.2 Constant draining of the street

A flow of energy is dependent on the intensity and pattern of movement. Krier (1984) explains that the modern urban block is bigger than the traditional one and makes use of an internalised circulation route with very often only one access point per edge (Figure 3.47). This has transformed the street from being a vibrant space of distribution and orientation as well as one of economic and social exchange (Figure 3.48) to one of a mere mono-function of access.

3.3.3 Street parking

Street parking usually happen in a continuous row acting as a barrier to pedestrian movement across the street, thus limiting the flow of energy in a linear pattern parallel to the pavement. Street parking in the form of pocket spaces of 3-4 cars is to be encouraged with the presence of trees in between to soften the edges of the site. The landscaped portions between the pocket spaces of parking provide the pedestrian with entry and exit points. (See Figure 3.49)

3.3.4 On-site parking

The edges of the site provide the most valuable spaces in terms of the following (Figure 3.50):

- Natural ventilation.
- Natural lighting.
- Views.
- Accessibility.
- Exposure to and from activity on edges of the site.
- The possibility for architectural articulation provided by various shop fronts.

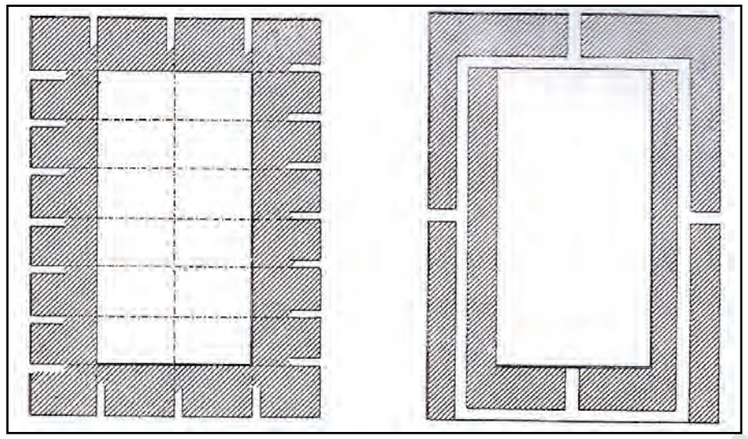


Figure 3.47 - The traditional block with individual access from the street (left) v/s the modern block with a collective access from the street and internalised circulation (right) (Source: Krier, 1984: p 45)

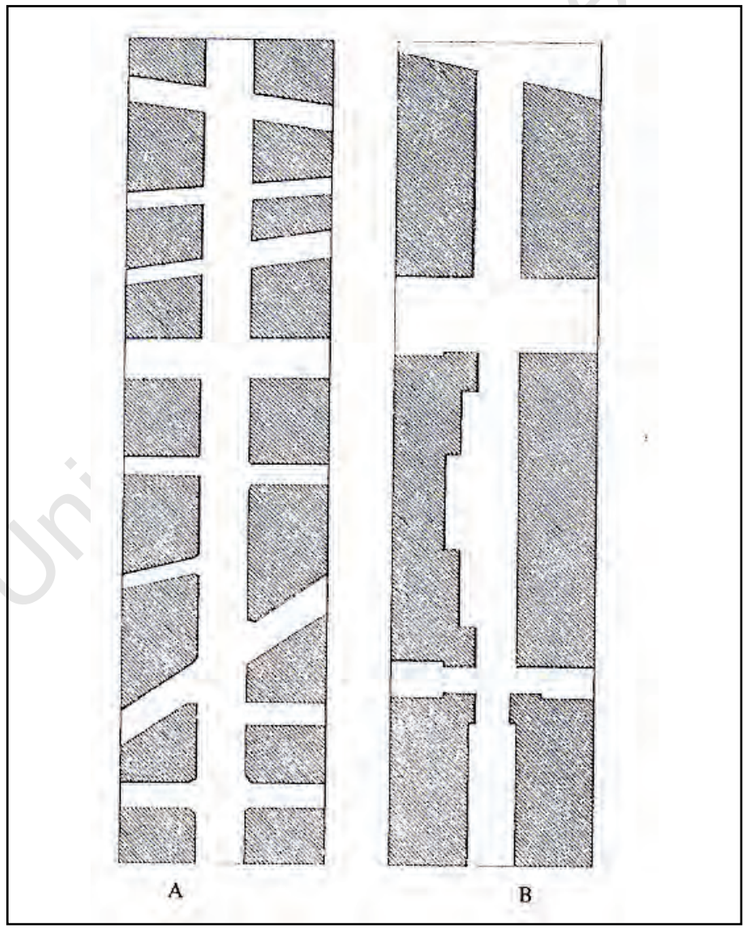


Figure 3.48 - Street A is busy street being regularly drained and street B is a quiet street (Source: Krier, 1984: p 45)

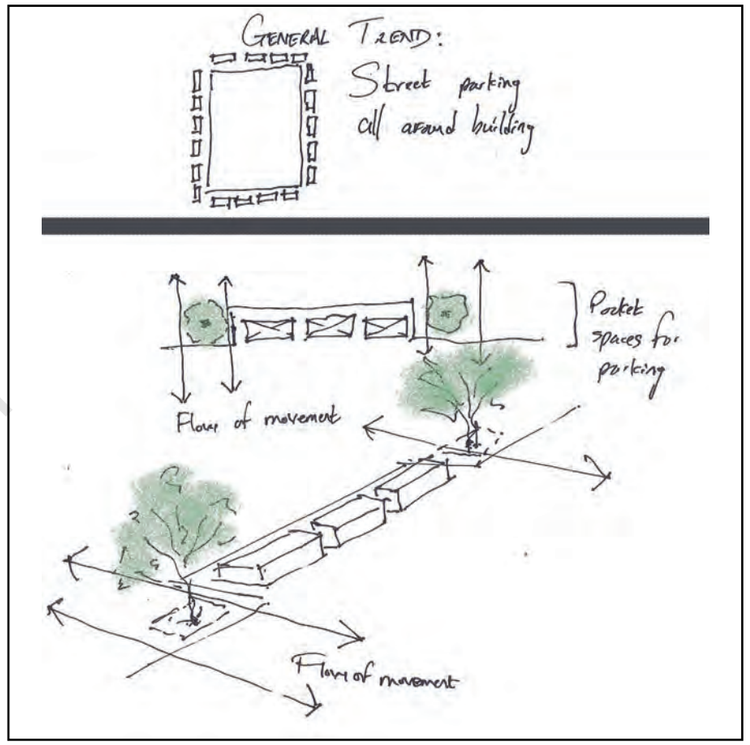


Figure 3.49 - Pocket spaces of street parking to soften edges of block (Source: Author's sketch)

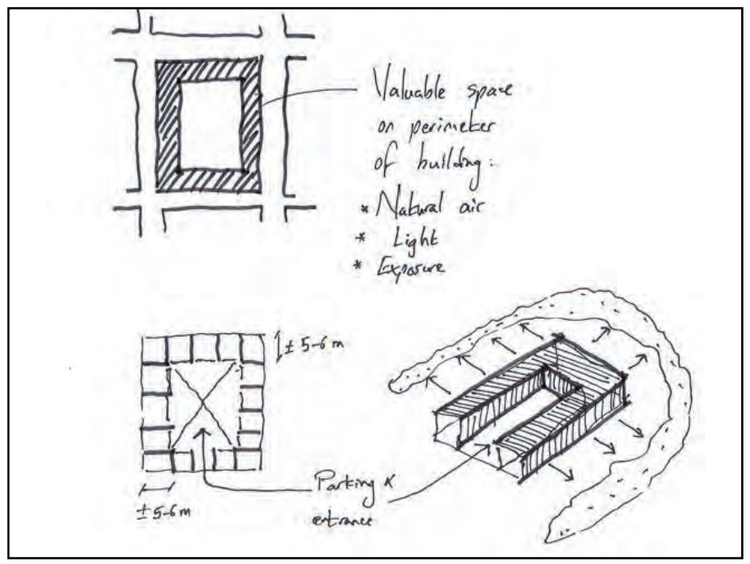


Figure 3.50 - Valuable space on the perimeter of the site (Source: Author's sketch)

The general trend of packing the lower floors with maximum parking space available is to be avoided. If additional parking space is required, basements are to be provided for with access to the basement from the less busy streets.

3.3.5 Generic circulation routes

Circulation routes (Figures 3.51 – 3.53) are meant to cater for both pedestrian and vehicular movement. Le Grange et al (2004: p 12) points out that a narrow street make it easy for the pedestrian to cross – hence the narrowing or pinching of space facilitates pedestrian movement and also creates the notion of entrances and gateways. Generous pavements and islands in the middle of the road for the pedestrian to pause make it easy for movement across a street.

3.3.6 Sense of enclosure

In a similar fashion that walls define a room, the built form must define the spatial qualities of a street or a space (Figure 3.54). No setbacks for buildings are to be allowed for at least the first 2-3 storeys unless for residential purposes (Figure 3.55) at regular intervals as opposed to a continuous setback. As far as possible, the ground floor level is to house a function that has a relationship with the street: retail-oriented functions are preferable.

3.3.7 Thickening of facade

The use of architectural elements such as colonnades, covered walkways, plinths, external stairs and stoops help in the *thickening* of a facade with the purpose of creating transition zones between realms, for instance between a public one and a private one (Figure 3.56).

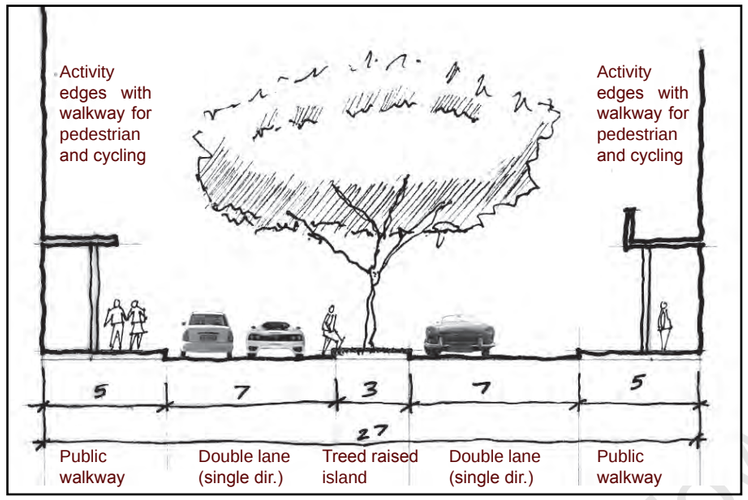


Figure 3.51 - Generic section through a busy road - Main Road (Source: Author's sketch)

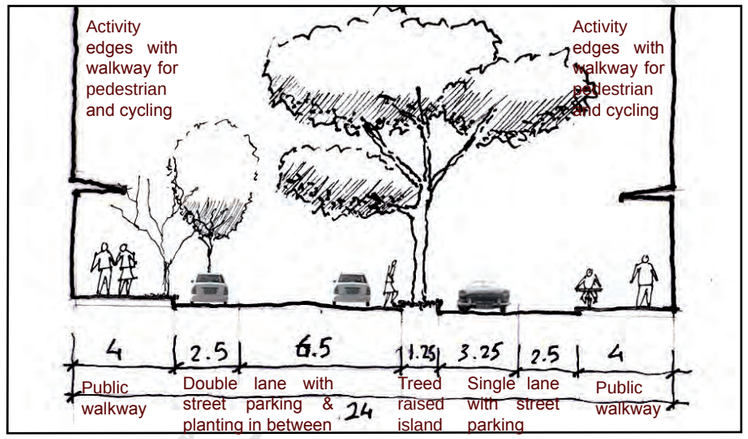


Figure 3.52 - Generic section through a busy street (Source: Author's sketch)

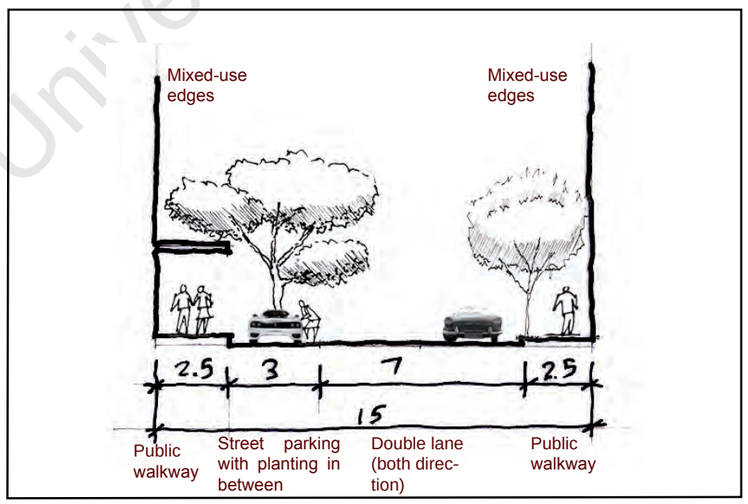


Figure 3.53 - Generic section through a side street (Source: Author's sketch)

Figure 3.54 - Buildings creating a sense of enclosure in Amsterdam (Source: Aarvin Jahajea's collection, August 2009)

Figure 3.55 - No building setbacks allowed unless residential (Source: Aarvin Jahajea's collection, August 2009)

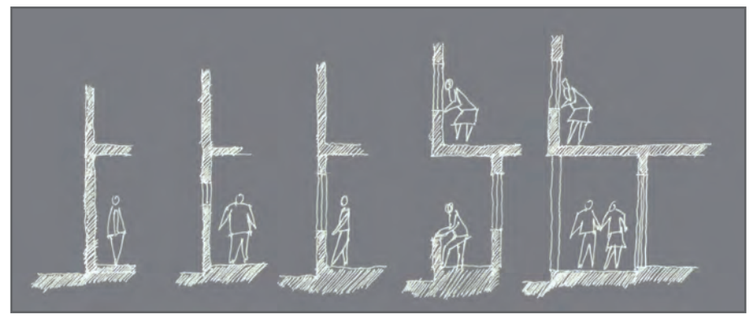


Figure 3.56 - Eye on the street and different ways thickening of a blank facade (from left to right) (Source: Author's sketch)

3.3.8 Building height

Fresnel's diagram (Figure 3.57) is one showing a square with diminishing successive rings of equal surface area. Sir Leslie Martin, in his research on geometry of the building block, considered the two extremes of Fresnel's diagram giving rise to the free-standing pavilion and the courtyard situation (Martin, 1974: p185-188). These two forms (as well as variations and combinations of these two forms) have been shaping most of our cities over time. When multiples of both forms are laid out on a grid system and trying to achieve the same floor area, the courtyard configuration is a third of the height of the pavilion (Figure 3.58).

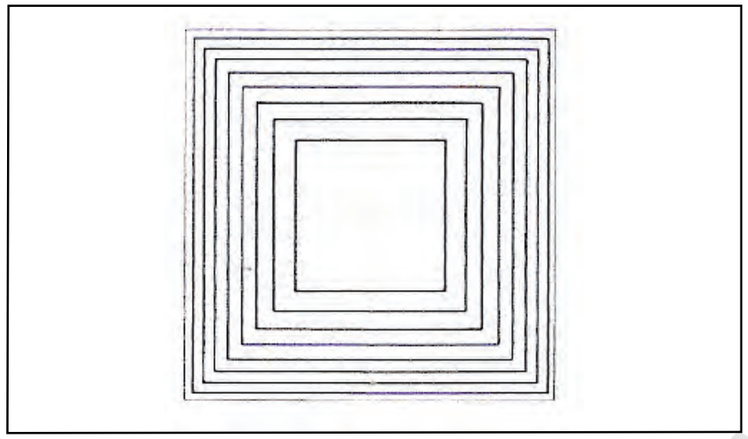


Figure 3.57 - Fresnel's diagram (Source – Martin, 1974: p 185)

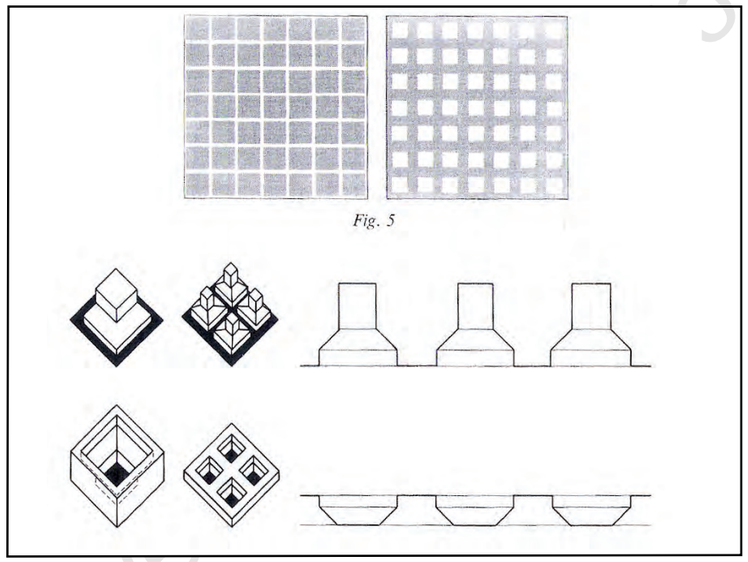


Figure 3.58 - Free-standing pavilion and the courtyard (Source – Martin, 1974: p 186)

3.3.9 Eye on the street

The concept of the eye on the street can be achieved through the introduction of transparency in facades at specific and strategic points (Figures 3.59 & 3.60). This is similar to the idea of the *active box* implemented in Khayelitsha through the VPUU programme. People, their behaviour and their activities are being *watched* through transparent elements such as windows, raised platforms and balconies – making them conscious that *every single one of their movements is being watched*. This can help in increasing surveillance, monitoring and levels of comfort for the users in public spaces.

Figure 3.59 - VPUU's active box as urban window (Author's collection 17/08/09)

3.3.10 The use of non-motorised transport

In times where the human race is being faced with the problems of depletion of natural resources and the phenomenon of peak oil, the high dependence on the private car as a means of transport must be reduced. People should be encouraged to make better use of public transport or non-motorised transport (Figure 3.61).

3.4 Current state of urbanism in the context of Cape Town

Madanipour puts forward three paradigms towards cities that

Figure 3.60 - Urban window at night providing surveillance and animation of the street: building in Strasbourg, France (Source: Aarvin Jahajea's collection, August 2009)

Figure 3.61 - Use of bicycles as non-motorised transport in Amsterdam (Source: Aarvin Jahajea's collection, August 2009)

Figure 3.62 - People encouraged to use non-motorised transport in Amsterdam (Source: Aarvin Jahajea's collection, August 2009)

were witnessed in the 20th century (Madanipour, 1996: p 184):

- Urban in nature at a metropolitan scale, trying to change the urban fabric as per the modernist era or to preserve and celebrate as per the conservation movement and post-modern movement.
- Anti-urban in nature – leaving the cities for the suburbs.
- Urban in nature at the micro scale with the creation of small towns – new urbanism.

Cities generally demonstrate characteristics of all the three above-mentioned paradigms at various stages and spatial manifestation of urbanisation – Cape Town is no different. Moreover, similar to numerous other cities in South Africa, urbanisation in Cape Town has been largely influenced by apartheid planning based on modernist's principles (Comrie, 2003: p 4). The modernist's principles of urbanisation, which have been responsible and are still the culprit for creating inwardly-oriented areas, were actually blindly copied and imported from a context of middle-class societies that were highly dependent on private transport in the form of the car (Le Grange et al, 2004: 10). Numerous cities around the world have become heavily dependent on the private car with no efficient means of public transport and Cape Town is no exception. As Jane Jacobs points out in her famous book *The Death and Life of Great American Cities* which is a powerful critique of Modernism and the city form it brought about, automobiles are often regarded as the cause of the problems of cities but should actually be regarded as a symptom of the problems of cities (Jacobs, 1961: p 7). Our incompetence at city building is more likely a cause of the problems of cities.

Thus, fragmentation of the urban fabric of Cape Town (Figure 3.63) as a result of apartheid planning is a phenomenon that continuously crops up when referring to its current state as a city. Through their emphasis on technology and machines, modernism had only achieved in elevating the *automobile* from being an item of luxury to an item of necessity – Cape Town is no exception to this situation with a high ownership of the private car as well as a high dependence on the latter (Figure 3.64).

The current post apartheid South Africa and South African cities are currently at a very critical stage of urbanisation or re-urbanisation. They face four major challenges in the form of urban integration, urban sustainability, urban growth and being part of the process of globalisation (Comrie, 2003: p 1). Urban spatial restructuring and the idea of compacting and integrating the city spatially has been important aspects of measures taken to deal with urban segregation as the legacy of apartheid. The latter had located people in areas with poor access to urban services and facilities, resulting in their level of expenses (transport costs for instance) always on the increase. This is a cycle which results in higher levels of crime. (Todes, 2006: p 50-51)

As a result, the following are typical characteristics of the South African urban landscape:

- Cape Town has historically grown from the main harbour towards that of Simonstown, later spreading towards the Cape Flats and up the West Coast (Figure 4.02) – Cape Town is a city faced with the problem of sprawl with the urban edge being continuously redefined.
- Cape Town still houses certain parts of the city that only have dormitory functions as they are predominantly residential areas – such is the case with Nyanga.
- Such areas demonstrate very poor spatial qualities and very poor standards of living (Figure 3.65).
- Children grow up in an environment deprived of proper social interactions and recreational facilities (Figure 3.65).
- High levels of crime.
- High levels of unemployment – yet these residents have to travel long distances to find a job or to work and in the process of doing so, they spend a great deal of their income on transport.

Figure 3.65 - Very poor spatial qualities and poor standards of living in Mkonto Square in Nyanga (Source: Author's collection 22/06/08)

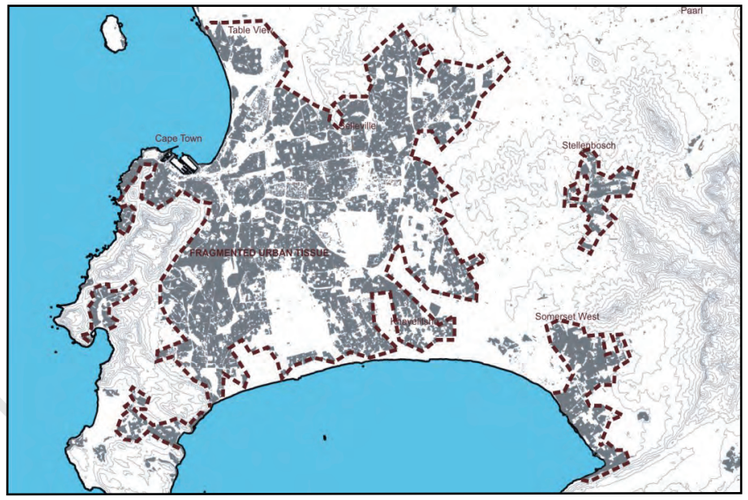


Figure 3.63 - Fragmented nature of the urban fabric of Cape Town (Source: GIS data from Chief Directorate: Surveys and Mapping)

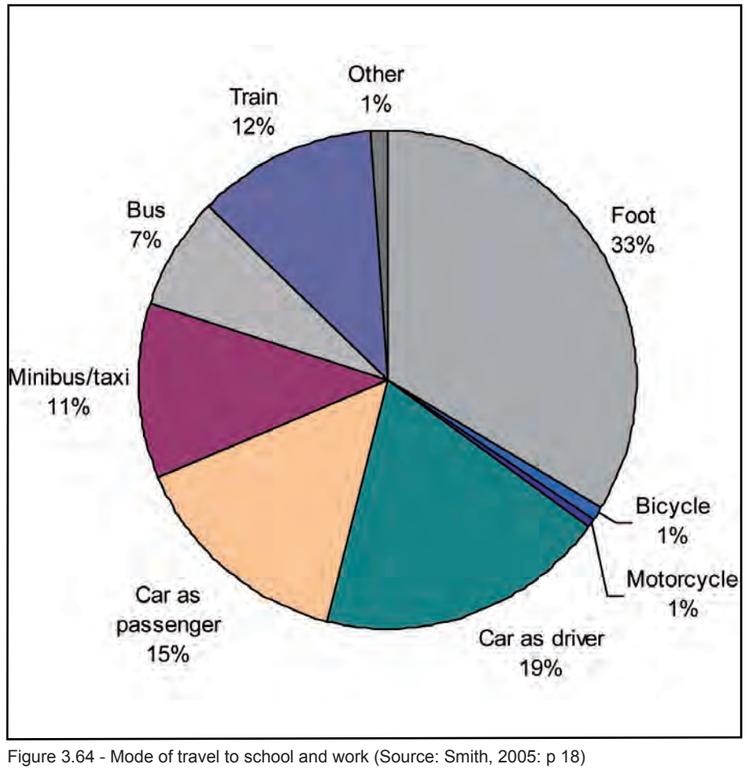
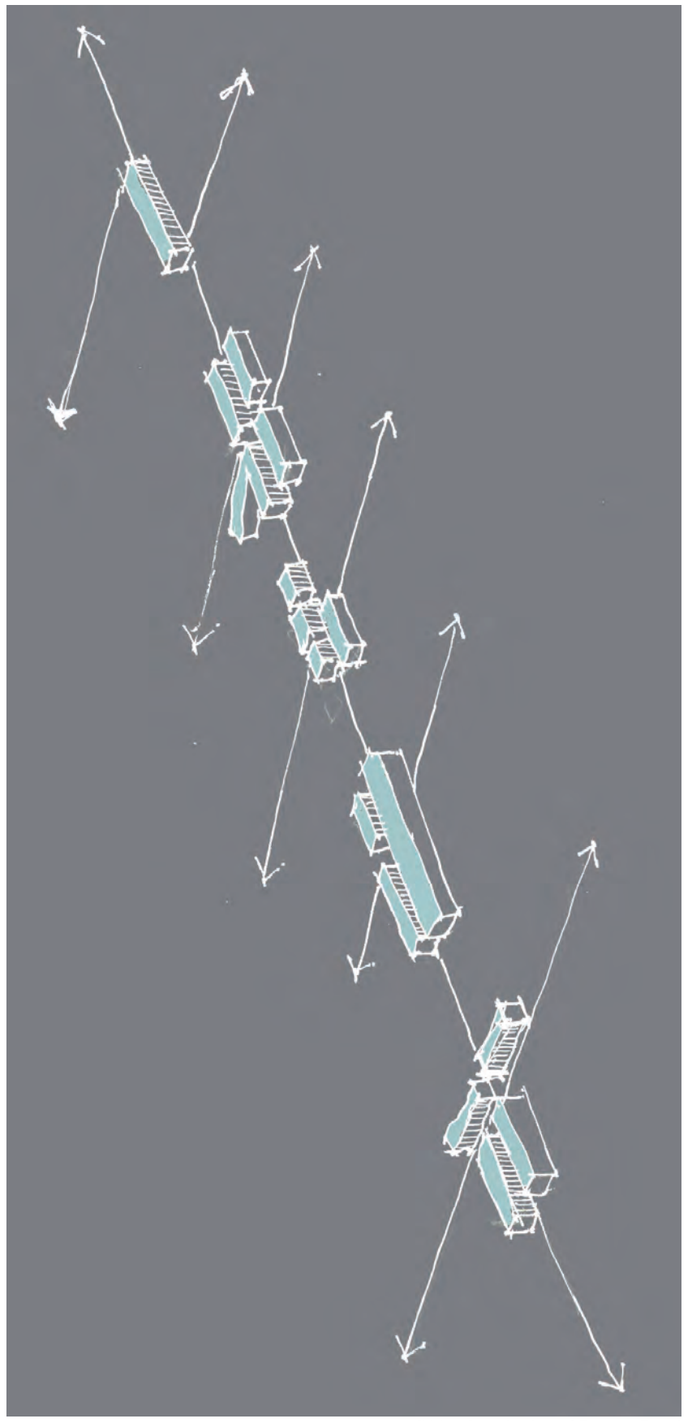


Figure 3.64 - Mode of travel to school and work (Source: Smith, 2005: p 18)

Chapter 4

The relevance of a transverse connector



[Urban] anchoring of Retreat Road

Chapter 4: The relevance of a transverse connector

4.1 Background: urban development corridor

4.1.1 What is an urban development corridor?

According to Harrison et al, some of the initial acceptance (and criticism) that master planning in the context of South Africa was not appropriate started at the University of Cape Town through some planning academics such as Dave Dewar in the 1980s. They argued that this type of spatial planning was only aggravating the situation when it came to problems of poverty, unemployment and mismanagement of resources. They argued for a city that was more compact with defined urban edges, a network of corridors, nodes and centres and a better integration of open and built spaces. (Harrison et al, 2007: p118)

That small group of planning academics, from the University of Cape Town, helped in providing alternatives different from the principles of apartheid spatial planning and consequently influencing the spatial policies in the post-apartheid era. They stated the case for compaction of the city so as to deal with urban sprawl and for planning interventions to be less rigid and more flexible. They would provide a framework with some structural elements that would help guide individuals and also allow the latter to respond to the framework. They argued for the case of a mixed-use approach whereby land uses would be more integrated with each other as opposed to the modernist planners' zoning schemes and segregated land uses and the concept of 'work, play and live' being separate from each other. (Todes, 2006: p 50-51)

"An integrative urban corridor in South Africa is a context for local urban design action that relates to the broadly linear energies generated by both old and proposed new movement systems initiated by others at a regional scale. In post apartheid South Africa corridors aim to improve access by physically linking up segregated parts of the city. The associated fragmentation is not only physical but also socio-economic and socio-political." (Comrie, 2003: p 31)

Le Grange et al describes an urban corridor as a broad band of mixed use activity around one or more continuous transportation routes, preferably carrying public transport (Le Grange et al, 2004: p 10). Mixed use activities of varying intensity usually agglomerate and cluster along one or more spines, giving rise to an urban development corridor (Figure 4.01). A corridor is usually comprised of the following generic structuring elements (refer to Figure 4.01):

1. mobility spines
2. activity spines
3. lateral connectors
4. urban nodes / activity nodes
5. inter modal transfer points / nodes
6. urban edges / corridor boundary

Henri Comrie (2003: p 58–59) points out that the width of a corridor is generally linked to the idea of convenient walking distances within a pedestrian friendly environment. An average maximum walking distance is usually regarded as 0.8-1 km, which can be covered in roughly 10-15 minutes. Hence, a convenient width for a corridor can be considered to be in the region of 2 km, with 1 km on each side of the activity spine.

As already discussed in section 2.2.2, a corridor can likened to the idea of beads along a string. Those beads vary in intensity, use and function along the string, thus creating various nodes or urban cores. Henri Comrie points out that those urban cores usually take place in the vicinity of transport interchanges and development within the urban core is aimed at achieving the following (Comrie, 2003: p 179):

- high intensity of development – high floor space ratio, coverage and height.
- pedestrian friendliness.
- outward-interacting development as opposed to inward-interacting development.
- high architectural quality.
- mixed use even at the level of individual site and buildings.
- building placed as close as possible to the street boundary for defining and shaping.
- active ground floor functions.

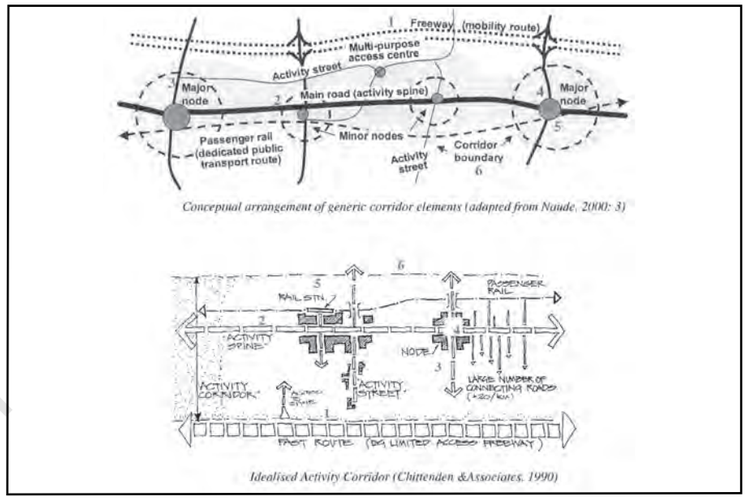


Figure 4.01 - A conceptual arrangement of an urban development corridor and associated urban elements (Source: Comrie, 2003: p 52)

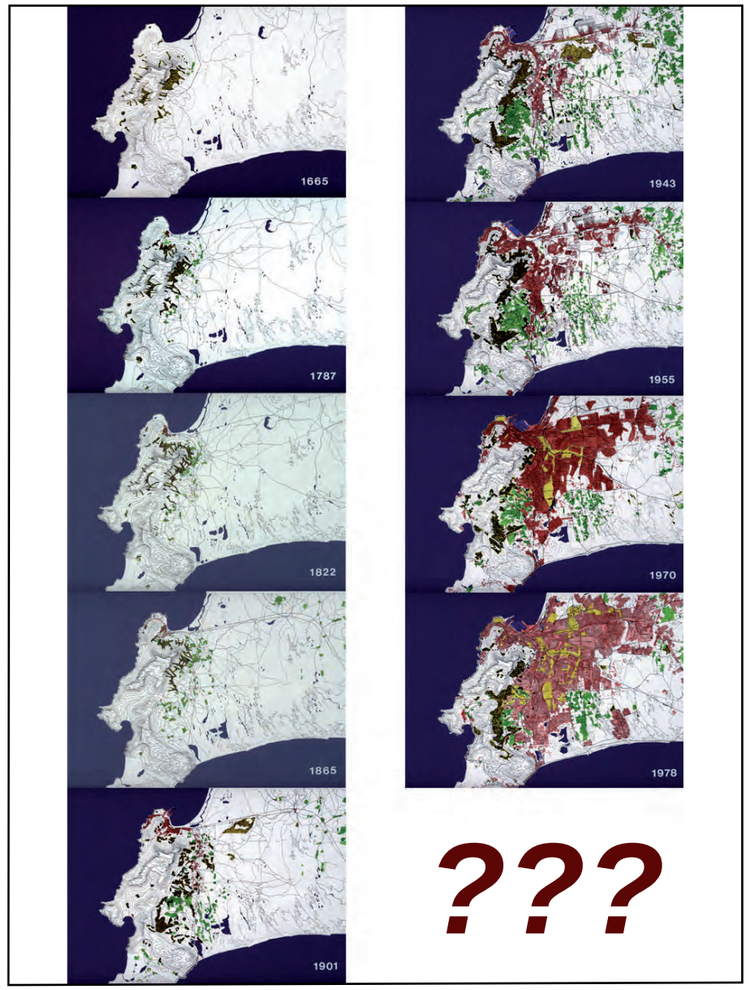


Figure 4.02 - Chronological development of Cape Town (Source: Fabio Todeschini)

4.1.2 What brings about an urban corridor development?

Traditionally, cities were defined by the city wall allowing a minimum and compact footprint where everything was fairly accessible by foot. The contemporary city tries to keep the notion of a city wall by defining an urban edge but being an imaginary line, it is hard to contain the urban fabric – see Figure 4.02 for the sprawling nature of Cape Town over time.

A comparison of Cape Town's residential density with some of the well-known cities around the world in the report *State of Cape Town 2006* shows that Cape Town has a fairly low residential density (City of Cape Town, 2006: p 26):

City (urban areas)	Population density / km² (2005 except for Cape Town – 2001)	Residential density / km² (based on South African dwelling occupancy of 4 persons per house)	Residential density / ha (du/ha)
Cairo	36 618	9 155	92
Mumbai	29 434	7 359	74
Barcelona	15 764	3 941	39
Sao Paulo	7 175	1 794	18
Mexico City	5 799	1 450	15
Rio de Janeiro	4 896	1 224	12
London	4 699	1 175	12
Bangkok	4 051	1 013	10
Cape Town	**2 644**	**661**	**7**

CNdV Africa (2005: p 6-7) points out that a gross density of 25 du/ha is the minimum one beyond which urban settlements start to perform adequately. The higher the gross density, the greater is the number of positive opportunities that can be achieved. According to CNdV Africa (2005), some authorities argue for even higher densities around the mark of 50 du/ha. At higher densities:

- land take for development and urban settlements is greatly reduced, thus providing land as a vital resource for local agriculture.
- institutions and facilities can be easily embedded in the urban fabric and are easily accessible by foot (Figure 4.03).
- public transport becomes more efficient due to the area being served being smaller and hence more frequent trips.
- the creation of a vibrant and active urban fabric can be achieved.
- vibrant communities result in increased surveillance and security.
- the possibility to achieve areas of mixed-use within walking distance is greatly enhanced.

Hence, the idea of an urban development corridor can help in achieving a sustainable densification of specific portions of the urban fabric, especially in sprawling ones. It is not possible to apply a densification strategy to the whole urban fabric but through the use of an urban development corridor, the urban fabric can be incrementally densified.

4.1.3 Residential density as an abstract concept in the region of a corridor

There is a general misconception that people associates an urban settlement of high density with that of overcrowding, unhygienic conditions, slums (Figure 4.04) and high rise buildings. As CNdV Africa (2005: p 6-7) points out, urban settlements are not built

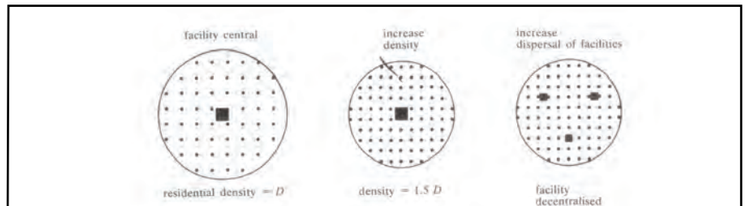


Figure [redacted] Increased densities accompanied by decreasing physical separation of activities as illustrated in Energy, Planning and Urban Form (Owens, 1986:33).

Figure 4.03 - Increasing density increases efficiency and convenience in the urban fabric (Source: Comrie, 2003: p 194)

Figure 4.04 - Association of urban settlements of high density with slums such as these: Kowloon 1993 in China (Source: Google Earth)

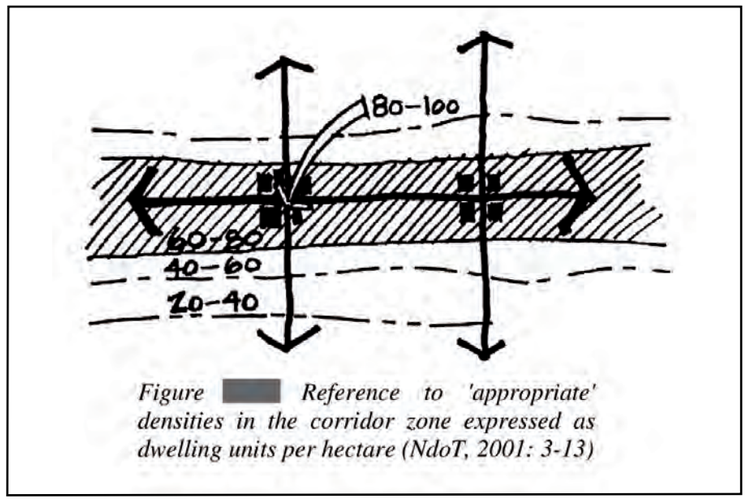


Figure [redacted] Reference to 'appropriate' densities in the corridor zone expressed as dwelling units per hectare (NdoT, 2001: 3-13)

Figure 4.05 - Residential densities in the region of a corridor (Source: Comrie, 2003: p 195)

making use of the same gross density as that would result in a monolithic and sterile environment. Densification is achieved through many various ways, various layouts and densification to varying extent of different parts of the urban settlement (Figure 4.05).

The following is a previous investigation, that was carried out in a previous studio project, (source: down to erf) into the concept of residential density, building typologies and some plot sizes:

- Figure 4.06 – type A & B can both yield a density of ±45 du/ha with different coverage though.
- Figure 4.07 – type C can yield a density of ±45 du/ha and type D can yield a density of ±90 du/ha.
- Figure 4.08 – type E & F can both yield a density of ±75 du/ha with different coverage though.
- Figure 4.09 – type G can yield a density of ±168 du/ha.
- Figure 4.10 – type H can yield a density of ±168 du/ha but is only restricted to sloping sites.
- Figure 4.11 – type I can yield a density of ±200 du/ha.
- Figure 4.13 – scenario 1 with predominantly high-rise apartments yielding a density of ±147 du/ha.
- Figure 4.14 – scenario 2 with predominantly single dwelling yielding a density of ±120 du/ha.
- Figure 4.15 – scenario 3 with a residential mix yielding a density of ±140 du/ha.

Thus, mixing different typologies of buildings can give rise to different layouts that shall be able to meet the minimum targets set in terms of densification – a minimum of 25 du/ha as pointed out by CNdV Africa. Figure 4.05 provides one with an indication of various residential densities to be achieved at various spatial

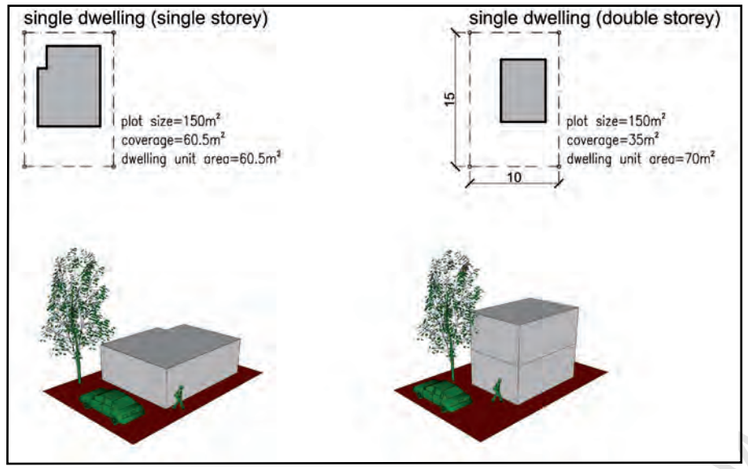


Figure 4.06 - Single dwelling configurations type A & B (Source: down to erf)

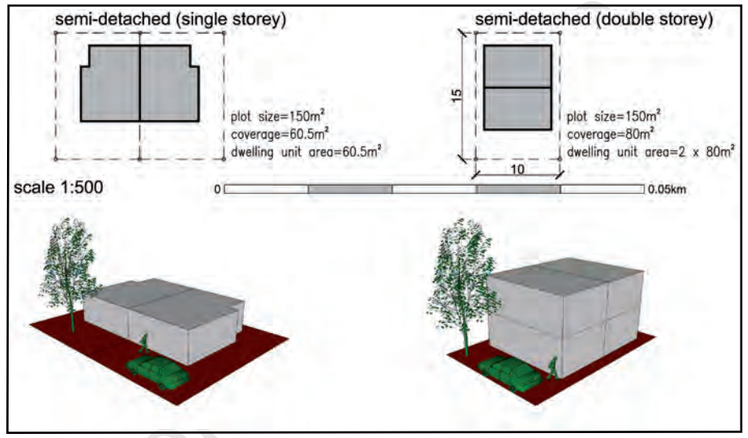


Figure 4.07 - Semi-detached dwellings configurations type C & D (Source: down to erf)

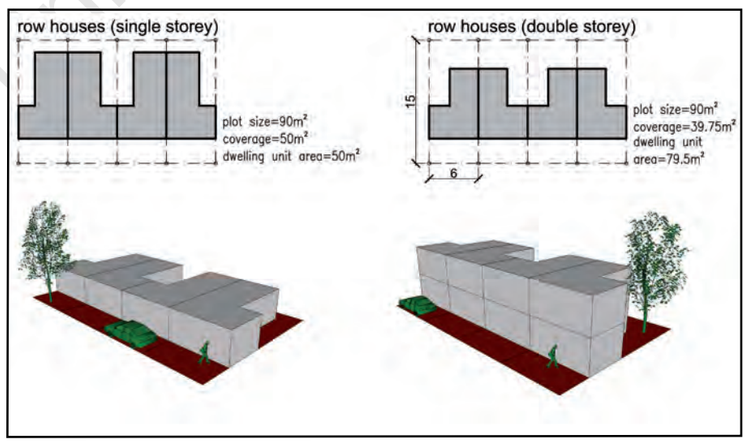


Figure 4.08 - Row houses configurations type E & F (Source: down to erf)

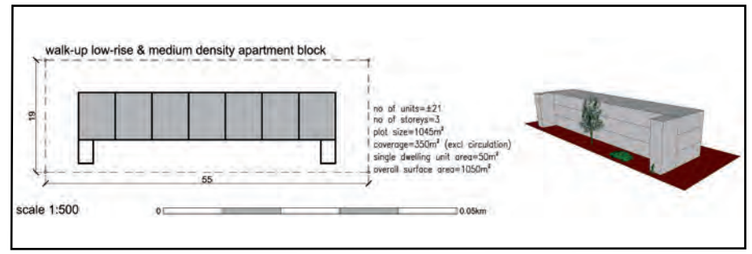


Figure 4.09 - Walk-up apartment block type G (Source: down to erf)

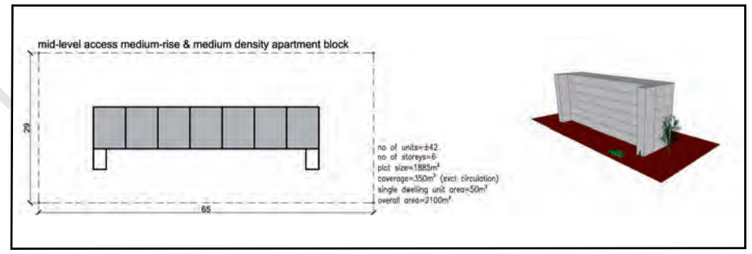


Figure 4.10 - Mid-level access apartment block (for sloping sites) type H (Source: down to erf)

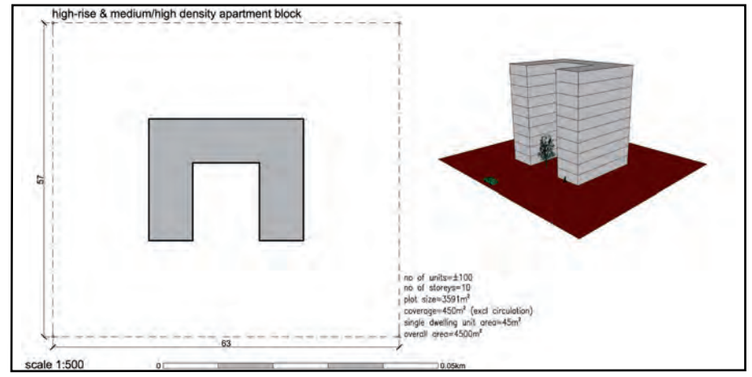


Figure 4.11 - High rise apartment block type I (Source: down to erf)

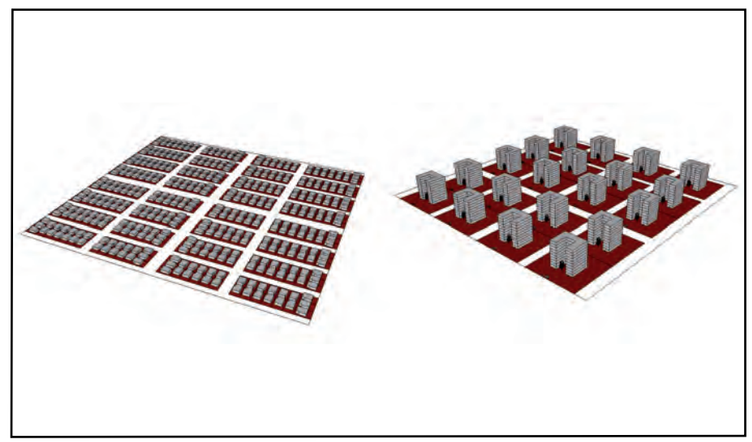


Figure 4.12 - Low rise suburbia v/s high rise overcrowding: the extremes (Source: down to erf)

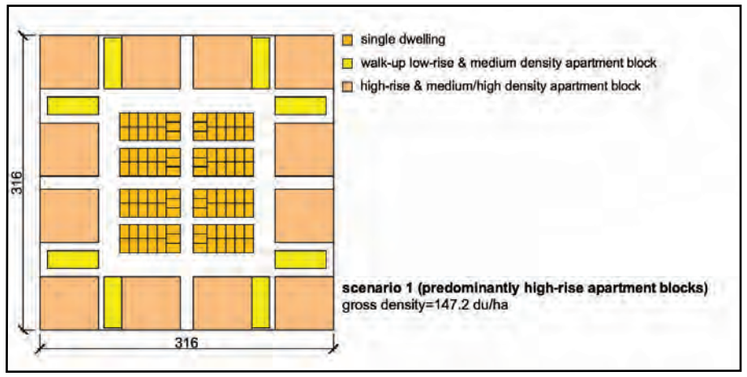


Figure 4.13 - Scenario 1 (Source: down to erf)

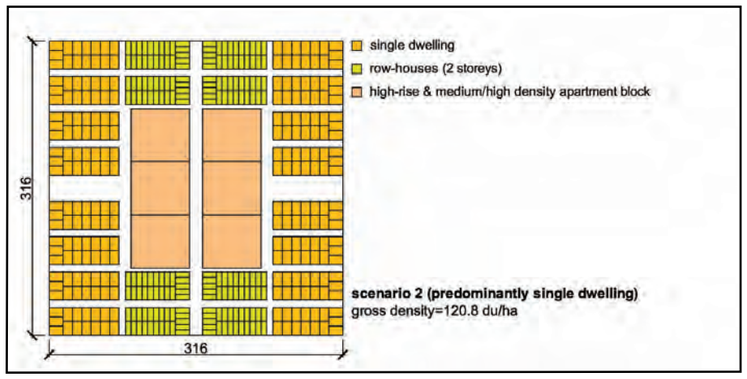


Figure 4.14 - Scenario 2 (Source: down to erf)

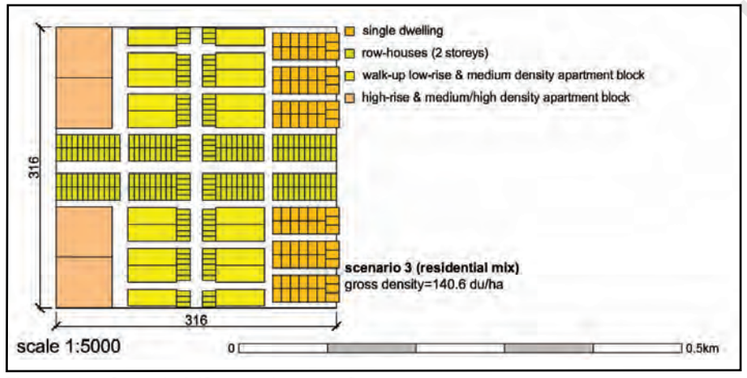


Figure 4.15 - Scenario 3 (Source: down to erf)

locations in and around a corridor for efficiency.

Bearing in mind that the aim of creating efficient and sustainable urban settlements, it is not advisable to have portions of the urban fabric to be dedicated to exclusively residential purposes. As part of the previous investigation into the concept of residential density, the following land budget was developed:

Use	**%**
Movement	20 %
Reserve for future development	10 %
Public facilities and open spaces	25 %
Residential	45 %
Total	100 %

Based on an area of 1 ha, we are left with 0.45 ha or 4 500 m² for residential. As per Figure 4.08 with a plot size of 90 m², one can easily fit 50 types E or F dwellings – twice the target of a minimum residential density of 25 du/ha. Where required, the residential fabric could be densified through three storeys walk-up apartments or high rise apartments.

4.2 What is a transverse connector?

Even though Henrie Comrie regards the notion of a development corridor as a top-down approach of creating development, he puts forward six important characteristics and positive impacts in its favour in the sense that (Comrie, 2003: p 2-3):

1. it facilitates urban stitching across the buffer zones of the apartheid city.
2. it provides the urban poor with better access to employment, housing and public facilities.
3. it is a way of strategically focussing national funding and resources in specific geographic locations as opposed to an 'all over the place' focus.
4. it enables agripolitan communities on the periphery of the city to have access to the central locations through the use of rapid mass transit routes.
5. it is a means of attracting global investment.
6. it allows the government to embark upon an integration programme of a fragmented society / city.

But then, what happens to the fabric or tissue – as Habraken calls it – outside the corridor?

The tissue outside the urban corridor has a very important role in supplying it with the required flow of energy for the corridor to survive. The urban corridor can be regarded as the market space and the tissue outside the corridor can be regarded as the action space. At the various beads or urban nodes along the corridor, the birth of transverse connectors (B6a & B6b) achieves the required integration linking the action space to the market space and vice versa. Similar to the urban development corridor, a transverse connector is also fairly linear in nature with an activity spine as the major structuring element (Figures 4.21 – 4.24). It also displays zones of varying intensity through the clustering of mixed-use activities along its length. This dissertation proposes the consolidation of Retreat Road as a possible transverse connector for the urban corridor of Main Road. Even though this is not the main aim of this dissertation, it also proposes an intention towards the re-structuring and consolidation of that specific portion of the urban corridor. It is proposed to anchor Retreat Road as a transverse connector through a more rational and effective public realm.

4.3 The evolution of the public realm and the public space

One of the most well-documented and very well-known forms of public space can be traced back to the *agora* which was an important and integral part of the acropolis of the Greek cities. The typical Greek city plan, for instance Priene (Figure 4.16) and Athens (Figure 4.17), would comprise the acropolis, the enclosing city wall, the agora, residential districts, one or more leisure and cultural areas, a religious precinct, the harbour and port, and possibly an

industrial district. The acropolis was the defensive hill-top nucleus of Greek cities. Agora was not just a mere public space – it was the living heart of the city and the central zone of the city. It was regarded as a whole in itself even though the various activities it sustained were fairly varied. As the focal point of the city, it was always located as near as possible to the centre of the city or in the case of the harbour cities, it would be found alongside the port. (Morris, 1979: p 24-25)

In the medieval times, the market space was a very important part of the public realm. For the average citizen nowadays, a market is just an entity that is part of the functioning of a city. However, in the days of Medieval Towns, it was the main space (Figure 4.18) as well as going to the market was the main activity of the week for the citizens. That was the day when they could take their goods there to sell and buy themselves what they could find and what they needed. (Morris, 1979: p 73 & 76)

Public space in a city has constantly been reinvented and reshaped with new times and era. In this section of the dissertation, I do not intend of providing a detailed chronological evolution of the public space in cities but to rather just provide a brief background as to what I believe the *new public space* is nowadays. Industrial Revolution (in England in the 1760s-1850s) brought about various changes in agriculture, textile, metal manufacture, transportation, economic policies and social structure. These changes subsequently rapidly spread throughout Europe, North America and eventually the rest of the world influencing the daily lives of people and cities. One of the main noticeable outcomes of the Industrial Revolution was the shift from manual labour towards machine-based manufacturing, especially in the textile sector (Figure 4.19). (www.wikipedia.org) For all its major achievements, the Industrial Revolution also had its negative outcomes in cities: low levels of hygiene (Figure 4.20), epidemic outbreaks and social chaos (Legates, 2000: p 301-302).

The horrors, social dislocations due to and unhygienic conditions associated with industrial urbanism lead to a return to romantic utopianism. One of the initial responses was the parks movement and later on the Garden City movement. In other situations

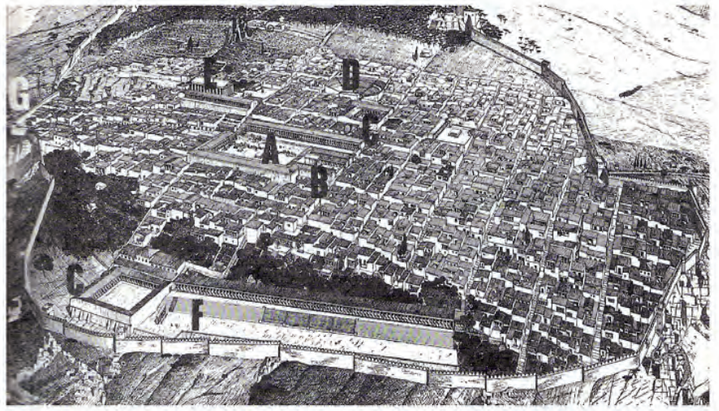


Figure 4.16 - Artist impression of Priene, city contained within a wall (Source: Morris, 1979: p 29) – Key: A – Agora, B – Temple of Zeus, C – Gymnasium, D – Amphitheatre / stadium, E – Temple of Athena, F – Stadium, G – main entrance into city

agora - the public space...

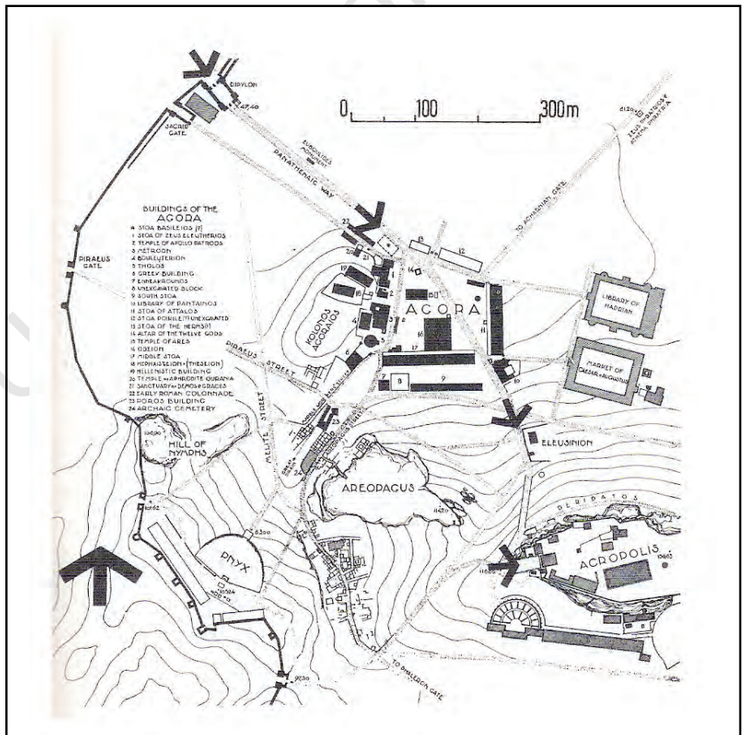


Figure 4.17 - Plan of Athens showing the agora (Source: Morris, 1979: p 31)

Figure 4.18 - Piazza del Campo in Siena, a medieval town in Italy (Source: Morris, 1979: p 77)

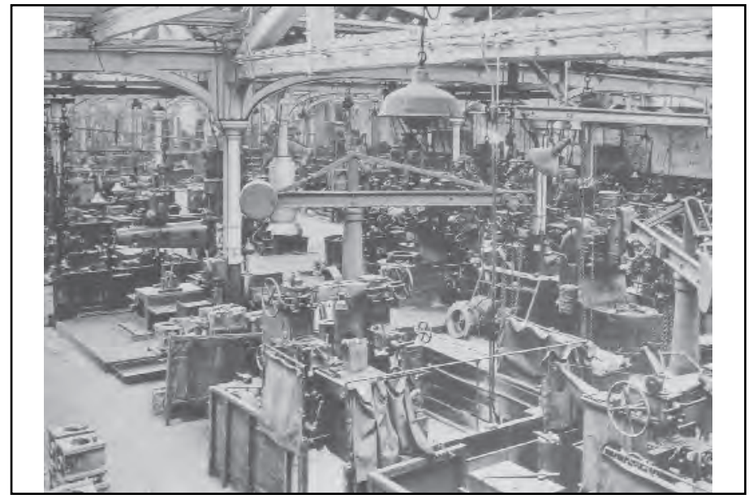


Figure 4.19 - Use of machines in factories as a result of the Industrial Revolution (Source: Glasgow Digital Library)

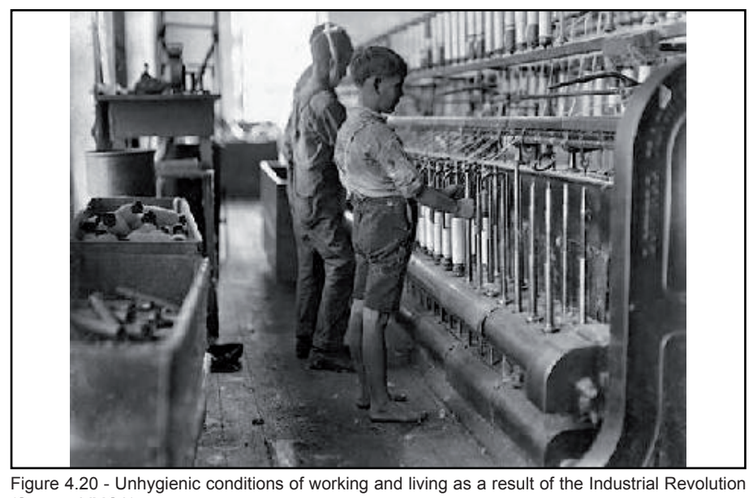


Figure 4.20 - Unhygienic conditions of working and living as a result of the Industrial Revolution (Source: YMCA)

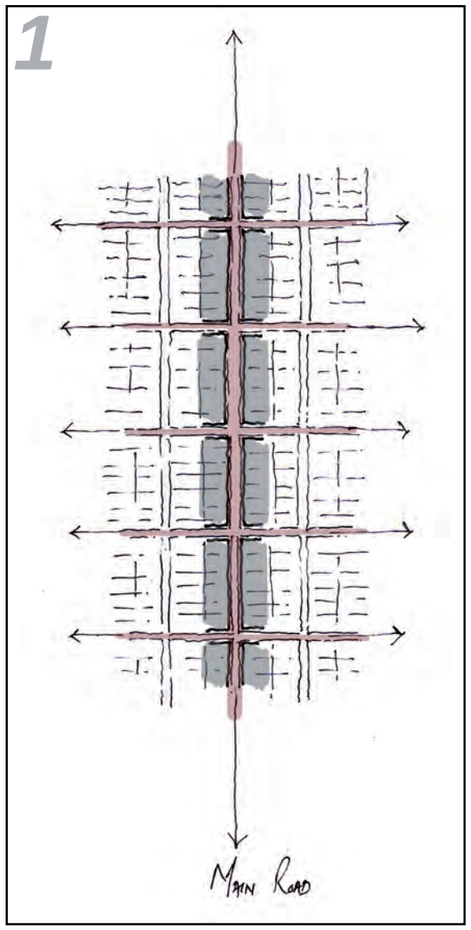


Figure 4.21 - Transverse connector type 1: residential fabric

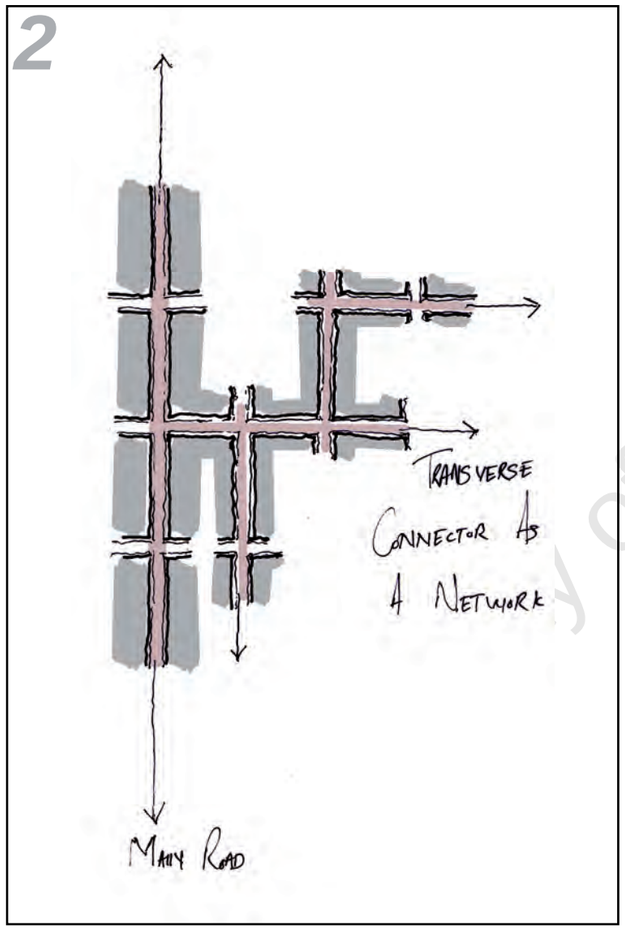


Figure 4.22 - Transverse connector type 2: network of activity spines

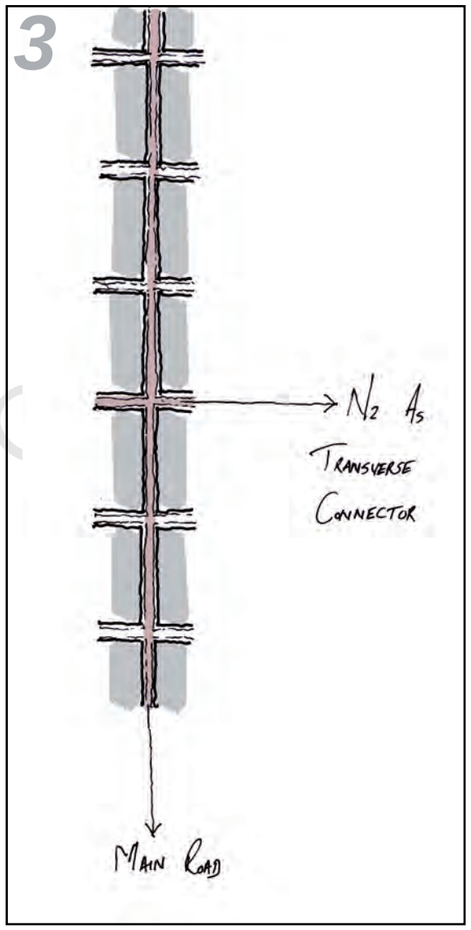


Figure 4.23 - Transverse connector type 3: mobility spine

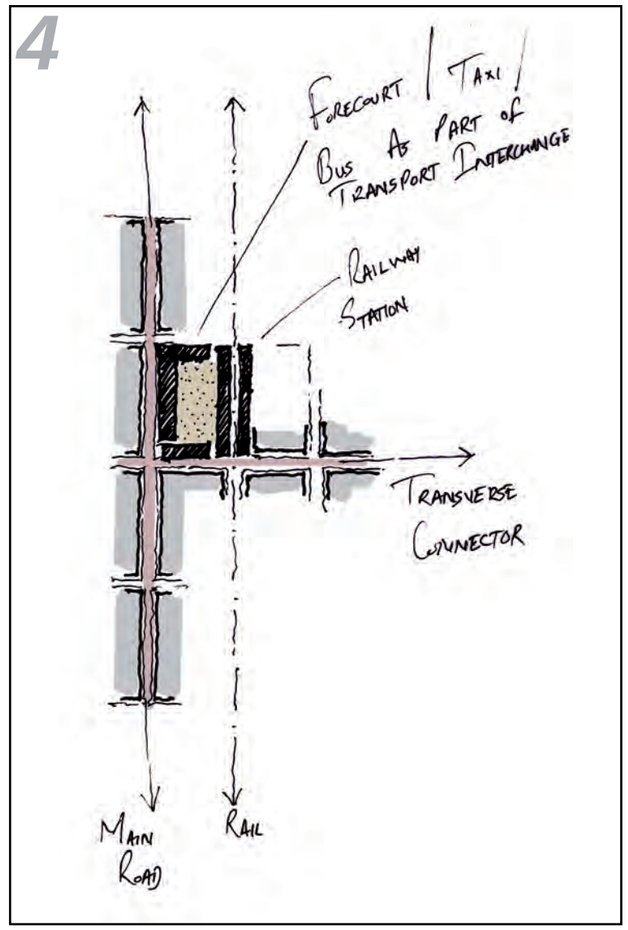


Figure 4.24 - Transverse connector type 4: activity spine from transport interchange

B6a. CORRIDOR AND TRANSVERSE CONNECTOR

Typology of transverse connectors supporting Main Road and Southern urban corridor
Source: Author's sketch

Figure 4.25 - Woodstock Main Road (Source: Author's collection 13/10/08)

Figure 4.27 - Observatory Lower Main Road (Source: Author's collection 18/03/09)

Figure 4.29 - Plumstead Main Road (Source: Author's collection 29/08/09)

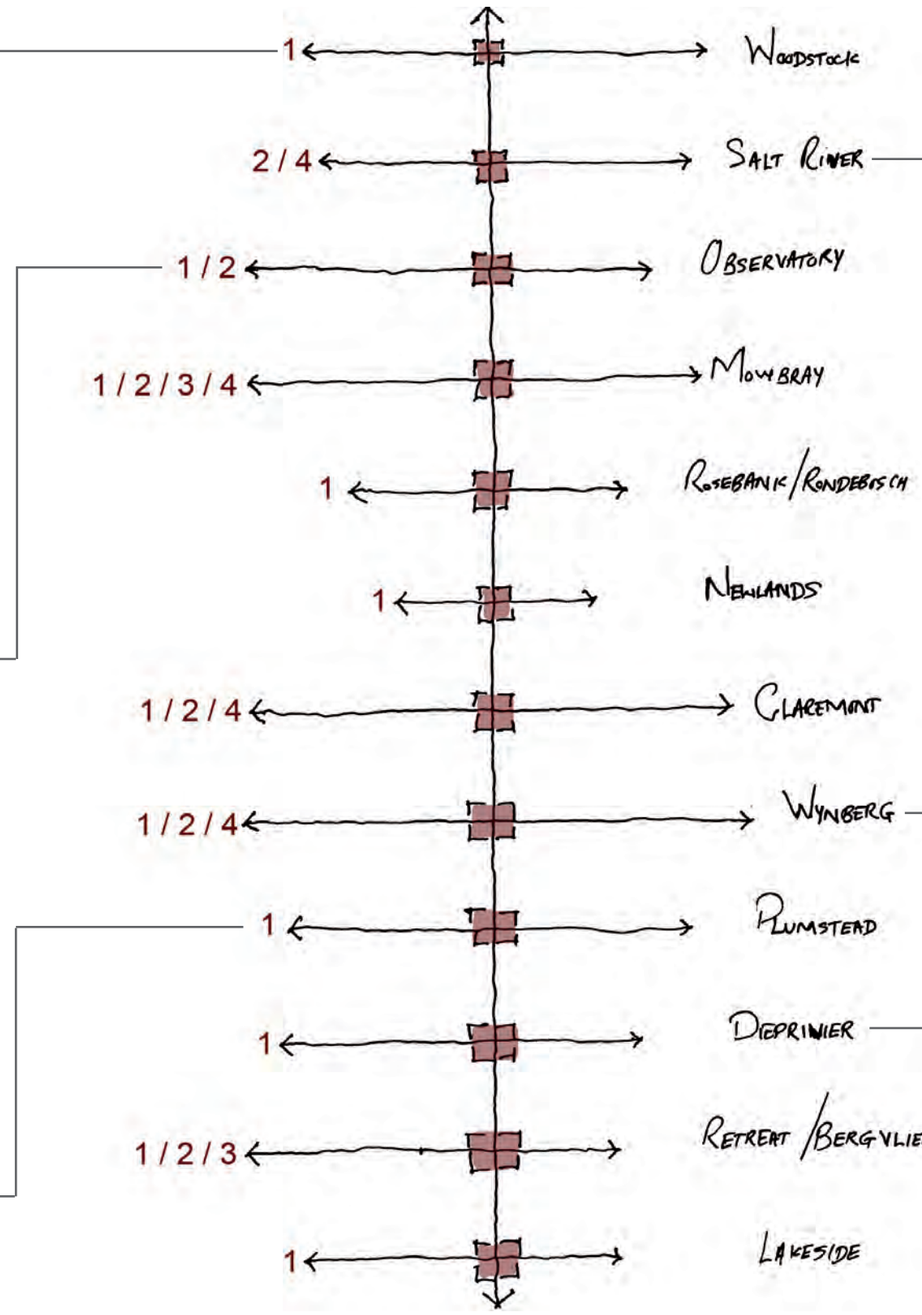


Figure 4.26 - Salt River Lower Main Road (Source: Author's collection 18/03/09)

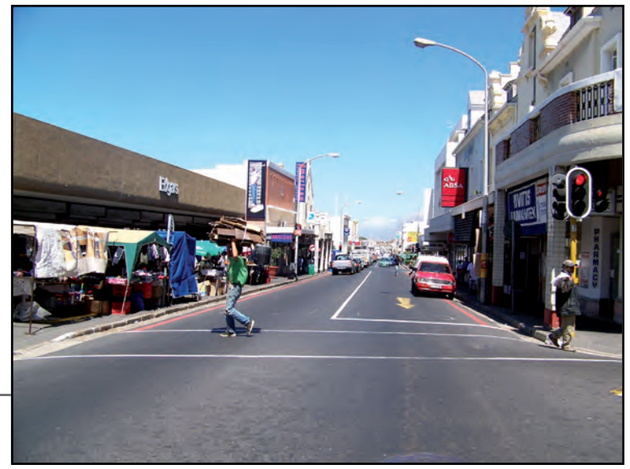


Figure 4.28 - Wynberg Main Road (Source: Author's collection 06/03/08)

Figure 4.30 - Diepriver Main Road (Source: Author's collection 29/08/09)

B6b. CORRIDOR AND TRANSVERSE CONNECTOR

Various urban conditions of urban corridor and transverse connectors
Source: Author's collection

for instance in Paris, Baron Haussmann undertook a project of extensive demolition and redesign that resulted in broad boulevards and tree-lined avenues. (Legates, 2000: p 301-302) In response to the negative after-effects of the Industrial Revolution, the field of city planning had put forward various ways of dealing with the chaos (and the deteriorating public health of the citizens) in the form of parks movement of the 1850s, the Civic Art and City Beautiful movement in the 1890s, the Garden City in 1898 and the Modernist principles of city planning in the 1920s onwards (Legates, 2000: p 300-305 & Gideon, 1967: p 783).

Modernism and its avant-gardist ideals and principles on city planning aimed at restoring order by finding a harmony between the industrial production, the machine and human beings. They drew their influence from engineers and the linear procedure of engineering giving rise to prefabrication, mass production and standardisation (Gideon, 1967: p xl). Thus, the modernists pointed out the main issues for architecture and city planning as follows:

- High rates of population growth.
- Influx of people into cities from rural areas.
- Low levels of sanitation and hygiene in cities.
- Declining public health.
- A clean break from history as a result of the disillusionment of architects and city planners at that time.
- Technological advances – the use of the machine to better the lives of the citizens.

Modernism cannot be accountable for a specific form of a city – these vary from the horizontal expansion of the city through Frank Lloyd Wright's Broadacre City to the vertical expansion of the city through Le Corbusier's Contemporary City and Plan Voisin (Figure 4.31). One thing that the majority of the proponents of Modernism had in common though was their obsession with the use of the technology and *the machine*. Cities and citizens developed a liking for the automobile as a consequence.

"*Modern life demands, and is waiting for, a new kind of plan, both for the house and the city.*" (Le Corbusier, 1989: p 3)

As a result of concentration of economic, cultural and political power of the modernist era, building programmes have been on the increase in terms of magnitude, thus resulting into larger and larger buildings and urban blocks (Krier, 1984). The public realm over the years has witnessed a loss of pedestrian scale due to motorised means of transport. Moreover, the high dependence on cars has accelerated the growth of the shopping mall leading to the death of the public street and the public realm. It is a well-known fact that shopping centres and malls usually develop next to a mobility spine due to ease of access: Vangate Mall in Athlone next to Klipfontein Road and Vanguard Drive, Canal Walk next to the N1 and lately Willowbridge in Bellville. These shopping centres later become the anchor point around which a themed city gets developed – for instance Century City around Canal Walk and Vangate City around Vangate Mall. On the other hand, if public spaces are provided in the city, squares without walls and edge definitions are developing nowadays showing no concern for the creation of volumes (Figures 4.32 – 4.34) (Gideon, 1967: p xlviii).

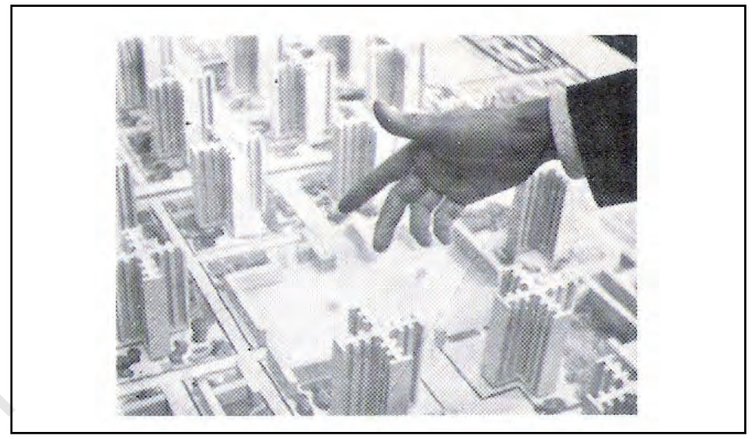


Figure 4.31 - Plan Voisin by Le Corbusier (Source: Frampton, 1980: p 155)

Figure 4.32 - Three Powers Square in Brasil (Source: Brazil Travel)

Figure 4.34 - Three Powers Square in Brasil (Source: Picasa)

Figure 4.33 - Three Powers Square in Brasil (Source: Picasa)

4.4 A theoretical urban design strategy: public space as an urban anchor

Peterson (1979: p 76) asks three questions when trying to formulate an urban design tactic:

1. *What is the essential, prerequisite medium of urbanism itself?*
2. *What are the constituent urban elements of the city?*
3. *What are the formal strategies and tactics available to provide coherence and relationships among these elements?*

Those three questions provide a good platform in initialising an urban design strategy leading to the idea of public space as an urban anchor. Even though the answers formulated in this dissertation towards this strategy might differ from those of Peterson (1979), it uses his article *Urban Design Tactics* as a starting point.

4.4.1 What is the essential, prerequisite medium of urbanism itself?

Peterson (1979) talks about space as being the essential medium of urbanity itself – he claims the Nolli map of Rome exemplifies this basic condition of urbanism (Figure 4.35). The Nolli map clearly demonstrates the importance of the accessible public space as providing a structure to the urban fabric. Urbanism is created as a result of a sequence of moving from the public, through the semi-public to the private realms. But in essence, the public realm in the form of public space (Figures 4.36 & 4.37) provides the initial catalyst for urbanism to manifest itself and for the various other realms to respond to.

Dave Dewar et al (1991: p 48) talk about three factors upon which integration of a city depends: continuity of the urban fabric, the way in which connector routes are used to structure the city (activity spine) and the pattern of accessibility. All of those three important factors can only be achieved through a well-thought and well-structured public realm (Figure 4.38).

Figure 4.35 - Nolli plan of Rome demonstrating the creation of space: the medium for urbanism (source: CoolTown Studios)

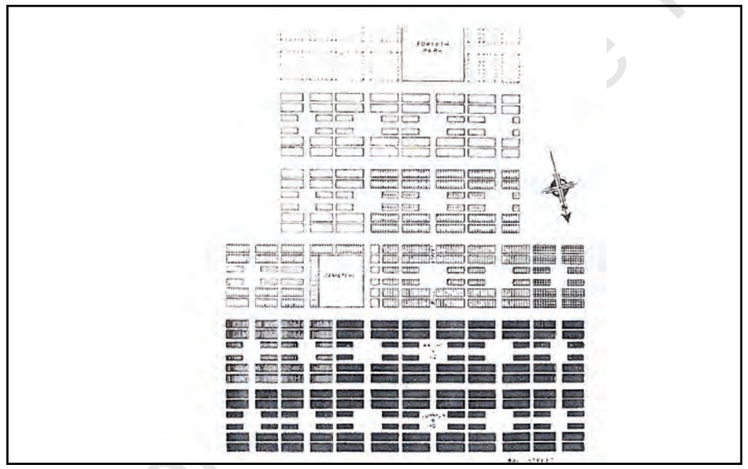


Figure 4.36 - The fairly autonomous nature of Savannah with the use of an additive module around a public square when more land is required (Source: Anderson)

Figure 4.37 - Savannah currently still valuing its systems of public spaces (source: Google Earth)

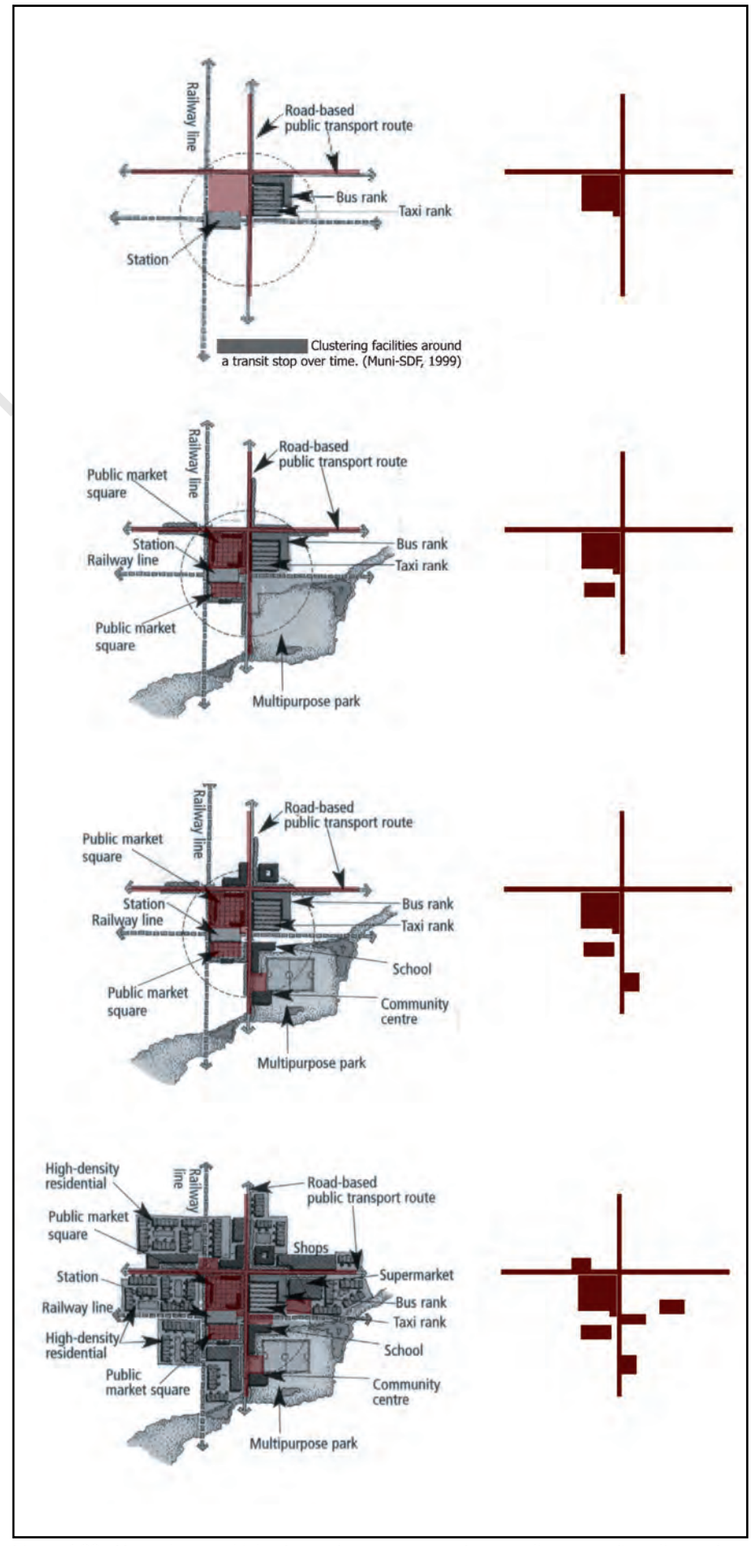


Figure 4.38 - How a transport interchange becomes an anchor over time: complimenting and adding to the public realm (adapted from source: Mentz, 2007: p 37)

4.4.2 What are the constituent urban elements of the city?

Space and blocks are the most important urban elements of urbanism. However, these two urban elements as just the space in itself or the block in the form of an object cannot exist in isolation. The two in conjunction result in urbanism (Figures 4.39 & 4.40).

The overlay of space and blocks give rise to other important urban elements such as public squares, public streets and structuring elements such as colonnades and public walkways (Figures 4.42 – 4.44). Such urban elements become variables in a possible coherent urban pattern (Peterson, 1979: p 76).

"*The length of the street is not the problem but the length of the block is the problem. Car traffic should remain in the existing street system. The oversized blocks should be broken down into small blocks by means of pedestrian streets and squares.*" (Krier, 1984)

The ideas of the Capital Web by David Crane or also referred to as capital designing represent a very strategic means of implementing a coherent urban pattern (Figure 4.41). That would help in determining the initial investment required by the public sector with a view to stimulate the private sector to work in conjunction.

4.4.3 What are the formal strategies and tactics available to provide coherence and relationships among these elements?

Two tactics at providing coherence among these urban elements are considered chronologically as follows:

- Insertion of public space as an urban anchor.
- Public space as a catalytic anchor for acting as a magnet for attracting development on an incremental basis.

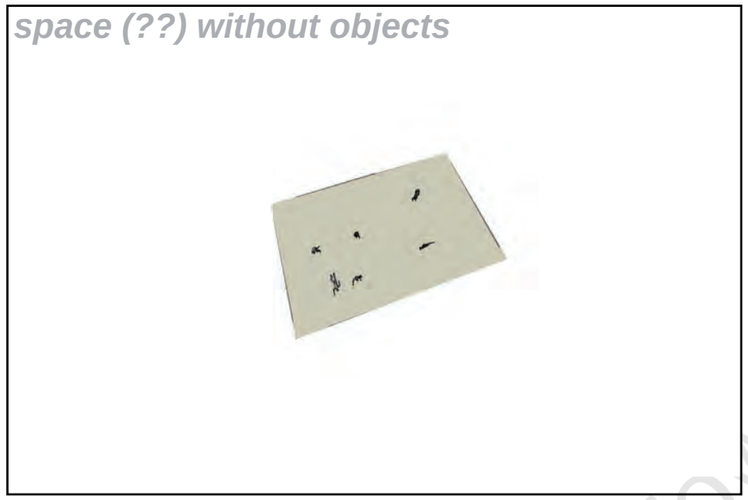


Figure 4.39 - Space on its own (Source: Author's sketch)

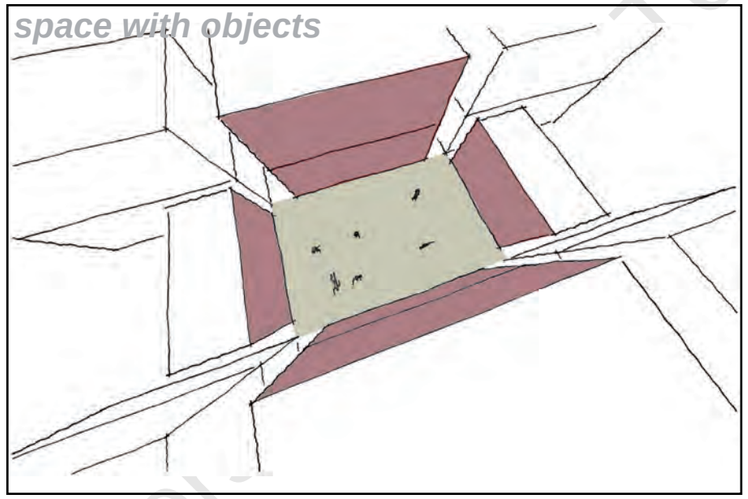


Figure 4.40 - Space as a result of objects (Source: Author's sketch)

Figure 4.41 - VPUU programme as an example of capital designing (Source: Kathrin Krause for VPUU)

Figure 4.42 - Church Square in Grahamstown next to cathedral (Source: Google Earth)

Figure 4.43 - Church Square as a space as a result of the City Hall and the Cathedral of St. Michael and St. George (Source: Author's collection 17/07/05)

Figure 4.44 - Street as an urban element due to the contribution of space and objects defining space (Source: Aarvin Jahajea's collection, August 2009)

The neo-rationalist Aldo Rossi identified two types of 'buildings' in the form of monuments and buildings for living. He put forward the creation of an armature that facilitated the interplay between the public and private realms with monuments as an important structuring element. Similarly, public space can be regarded as a very important element of the structuring armature – it becomes urban anchors for the consolidation or rejuvenation of a fabric in need of structuring or re-structuring (Figures 4.46 & 4.49). These anchors subsequently act as magnets for attracting future investments that would help in the incremental development of the fabric over various cycles of growth and change (Figures 4.45 – 4.50). However, one must not forget that public space cannot exist in isolation – it requires the presence of objects for its survival. Public space demonstrates a dual nature in the sense that it can act as a catalyst but it is also a parasite in that it 'sucks off energy' from other urban elements such public institutions, facilities and economic facilities.

"The importance of pedestrian public spaces cannot be measured, but most other important things in life cannot be measured either: Friendship, beauty, love and loyalty are examples. Parks and other pedestrian places are essential to a city's happiness." Enrique Penalosa, ex-mayor of Bogota

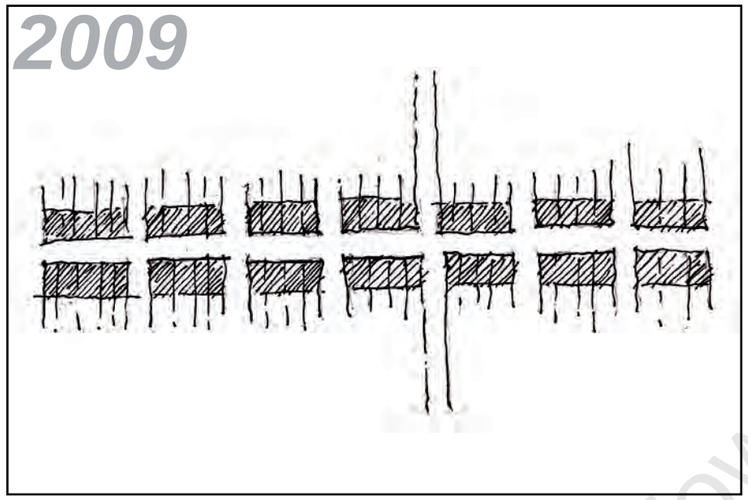


Figure 4.45 - Initial fabric: currently (Source: Author's sketch)

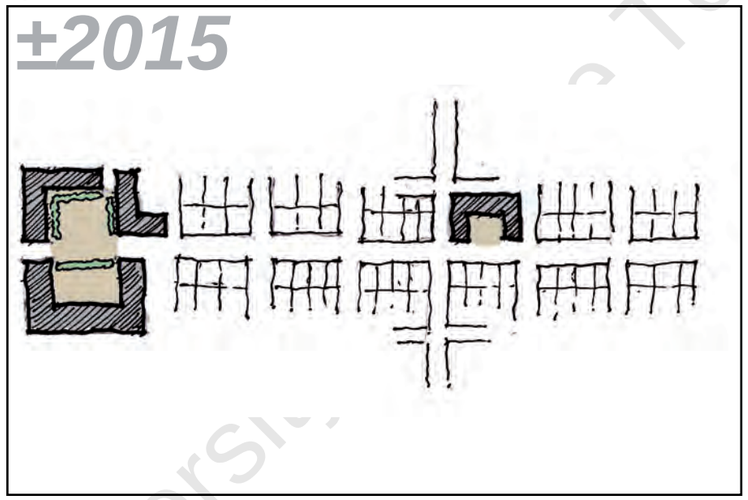


Figure 4.46 - Catalytic anchors as magnets for development within 5 years (Source: Author's sketch)

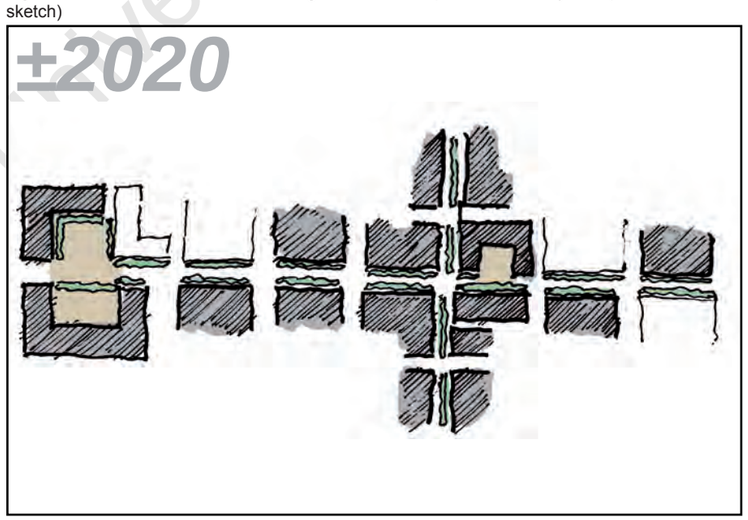


Figure 4.47 - Incremental development between anchors (Source: Author's sketch)

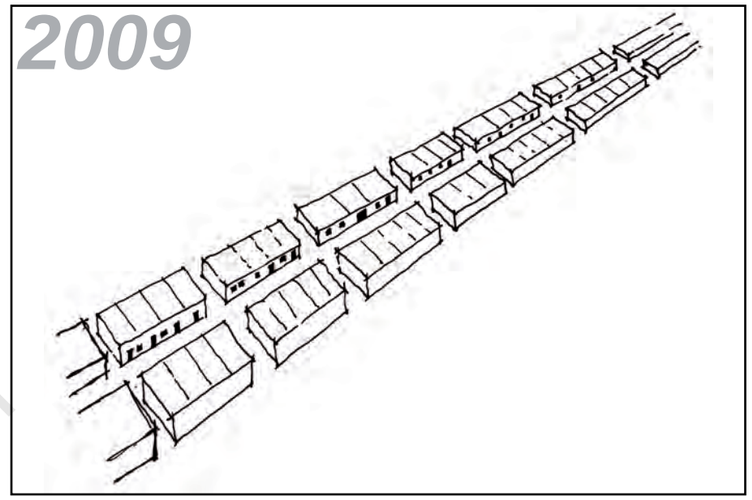


Figure 4.48 - Initial fabric: currently (Source: Author's sketch)

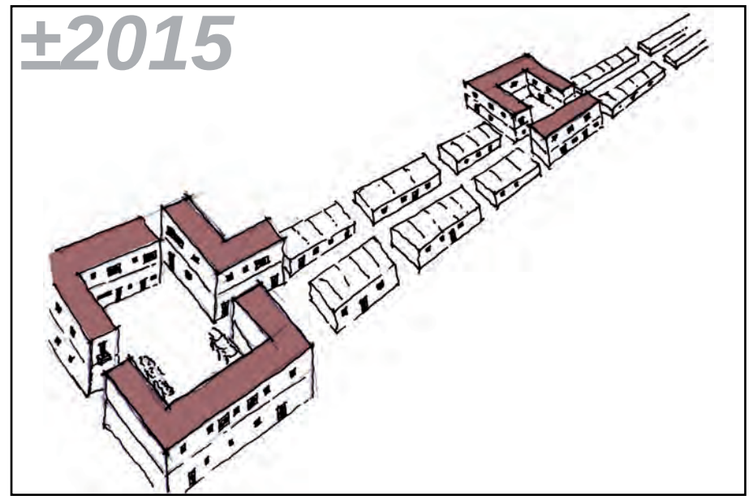


Figure 4.49 - Catalytic anchors as magnets for development within 5 years (Source: Author's sketch)

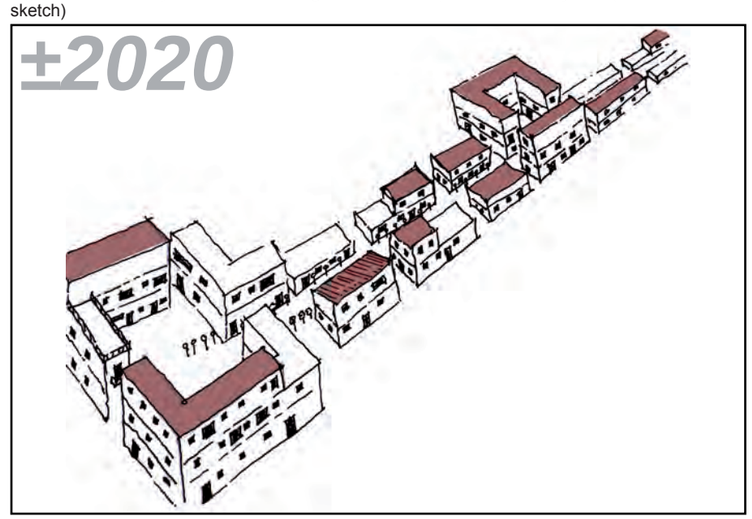


Figure 4.50 - Incremental development between anchors (Source: Author's sketch)

Chapter 5

Urban anchoring through the public realm as a design strategy

[Urban] anchoring of Retreat Road

sub-metro analysis

Chapter 5: Urban anchoring through the public realm as a design strategy

5.1 Contextual analysis

This section of the dissertation has been broken down as follows to allow a better understanding of the context:

- A figure-ground of the area to get a quick understanding and a grip of the area.

- Contextual analysis of the various systems inherent in the fabric for a better understanding of the structure and functioning of the area:
  - Natural systems
  - Urban systems
  - Social systems
  - Economic systems

- Sub-metro context.

- Opportunities and constraints.

- Identification of possible urban anchors.

Madanipour (1996: p 200) describes suburbia as something with no reliance on city centres in the sense that they have their own workplaces, shopping malls and residential areas and usually target the middle class of the society. Generally, suburbia is the result of low density suburban sprawl. Retreat Road and the portion of the fabric around Main Road and Station Road – which eventually leads into Retreat Road – demonstrate those characteristics of suburbia. This part of the fabric is actually quite detached from the urban corridor along Main Road – the Main Road corridor seems to run out of energy when it gets to the areas of Plumstead and Dieprivier.

[Urban] anchoring of Retreat Road

sub-metro analysis

scale 1:20 000 @ A3
0.2 0 0.2 0.6 1 km

- Coarse grain
- Established urban fabric to an extent
- Fairly fragmented

- Finer grain
- Soft urban fabric to an extent
- More integrated and structured

Figure 5.01 - Non-accessible space on Concert Boulevard: Retreat Central Recreation Area (Source: Author's collection 29/08/09)

Figure 5.02 - Accessible space: station forecourt on Retreat Road side (Source: Author's collection 09/10/09)

Figure 5.03 - Retreat Community Centre: a must-be accessible space that is surrounded by concrete boundary wall (Source: Author's collection 09/10/09)

C1. FIGURE GROUND

Accessible space v/s non-accessible space

sub-metro analysis

Figure 5.04 - Intersection of Main Road and Station Road leading to Retreat train station: no proper gateway (Source: Author's collection 09/10/09)

Figure 5.05 - Retreat Road: indication of a possible activity spine (Source: Author's collection 29/08/09)

Figure 5.06 - Prince George Drive: a mobility spine as a backup to Main Road (Source: Author's collection 29/08/09)

C2. FIGURE GROUND ON AERIAL

Accessible space v/s non-accessible space
Source: City of Cape Town (base aerial)

sub-metro analysis

main road

retreat road

concert boulevard

prince george drive

5th avenue

scale 1:20 000 @ A3
0 0.2 0.4 0.6 1 km

Figure 5.07 - 5th Avenue: possible continuation of Retreat Road as an activity spine (Source: Author's collection 29/08/09)

Figure 5.08 - Busy Corner Centre on 5th Avenue: a possible node along the possible activity spine (Source: Author's collection 29/08/09)

Figure 5.09 - Philippi Farmlands: last major portion of productive agricultural land within the city (Source: Author's collection 29/08/09)

C3. AERIAL

Aerial of Main Road, Retreat Road and 5th Avenue
Source: City of Cape Town

sub-metro analysis

- Vleis as potential recreational areas

- No proper open spaces

- Buildings adopt a backyard attitude towards vleis, rivers and open spaces: non-responsive edges towards green elements

Little Princess Vlei &
Princess Vlei

Philippi farmlands

Langvlei

Louwsvlei

Rondevlei & Zeekoevlei

Retreat Central
Recreation

scale 1:20 000 @ A3
0 0.2 0.4 0.6 1 km

Figure 5.11 - Entrance to Princess Vlei from Prince George Drive (Source: Author's collection 29/08/09)

Figure 5.10 - Langvlei: possible space of relief on Retreat Road (Source: Author's collection 09/10/09)

C4. NATURAL SYSTEMS

Non-responsive edges: Open spaces, parks, rivers ...
Source: City of Cape Town (base aerial)

sub-metro potential

- Vleis as potential recreational areas

- Built fabric to respond to green fabric through responsive edges

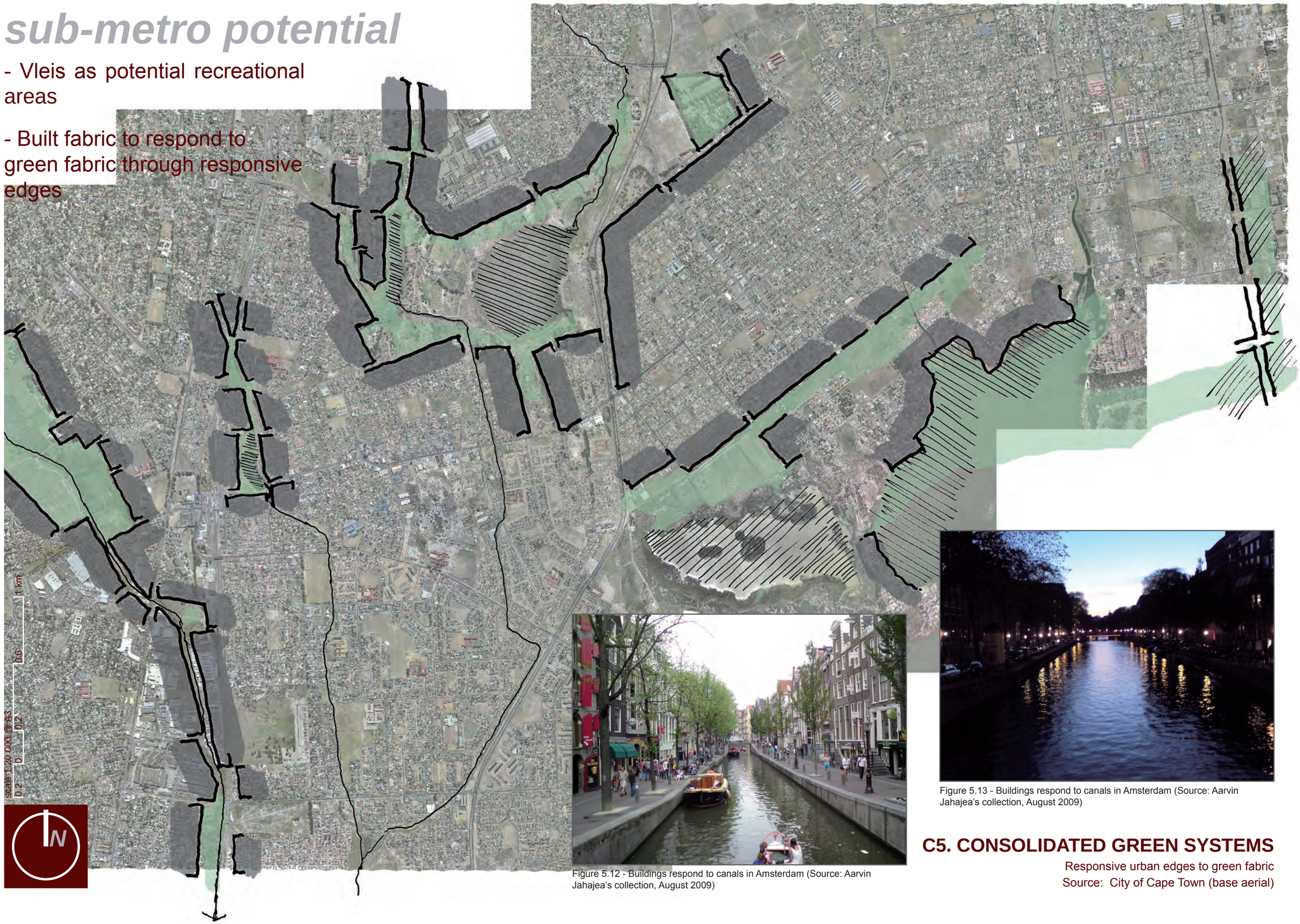


Figure 5.12 - Buildings respond to canals in Amsterdam (Source: Aarvin Jahajea's collection, August 2009)

Figure 5.13 - Buildings respond to canals in Amsterdam (Source: Aarvin Jahajea's collection, August 2009)

C5. CONSOLIDATED GREEN SYSTEMS

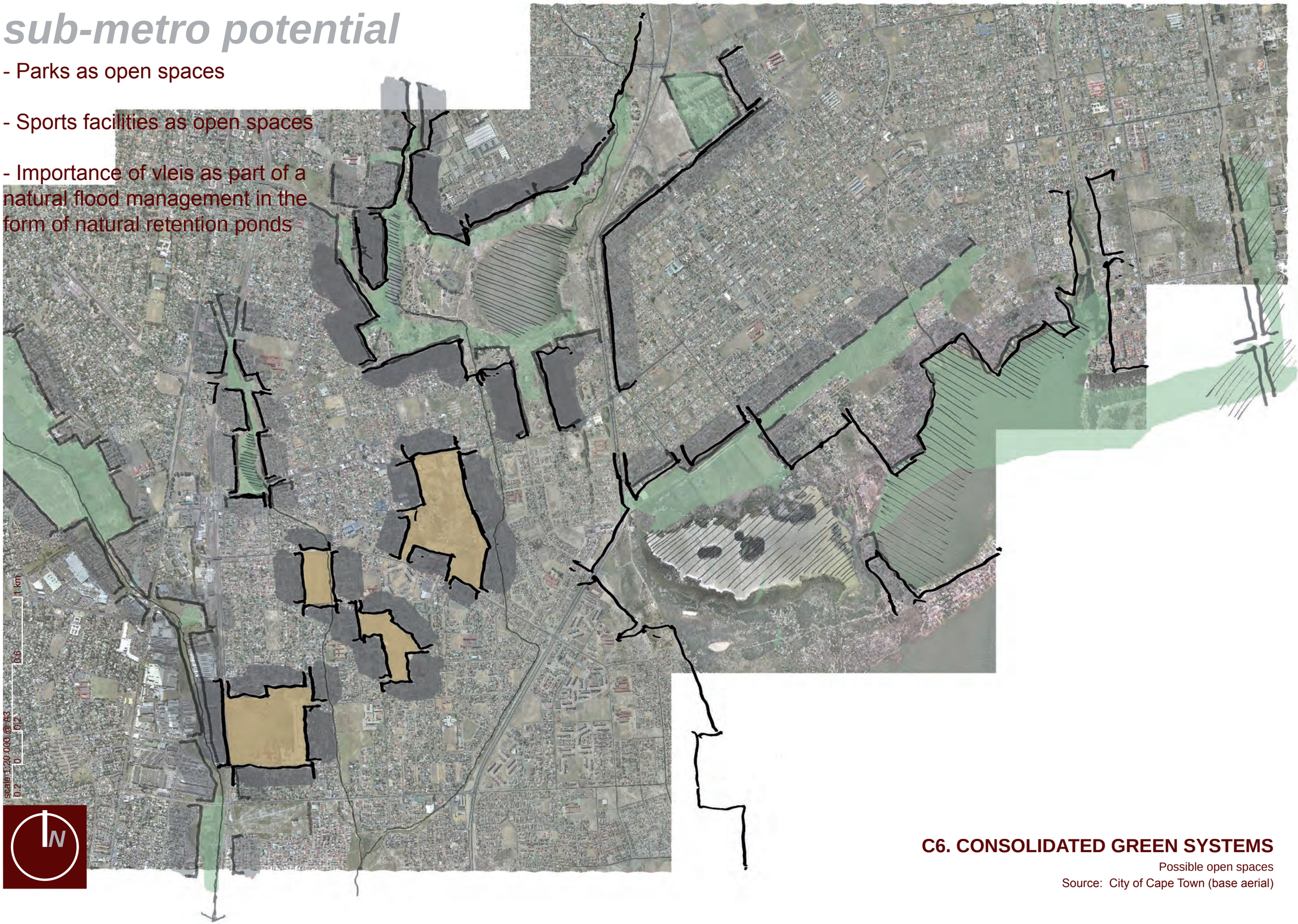
Responsive urban edges to green fabric
Source: City of Cape Town (base aerial)

sub-metro potential

- Parks as open spaces

- Sports facilities as open spaces

- Importance of vleis as part of a natural flood management in the form of natural retention ponds



C6. CONSOLIDATED GREEN SYSTEMS

Possible open spaces

Source: City of Cape Town (base aerial)

sub-metro analysis

- Metro-scale access through train (and taxi)

- Sub-metro access through taxi

- Railway line as a barrier between Main Road and Retreat

Taxi station

Taxi station
(Busy Corner Centre)

Train station &
taxi station

scale 1:20 000 @ A3
0 0.2 0.6 1 km
0.2

Figure 5.14 - Train and taxi station on Main Road side (Author's collection 09/10/09)

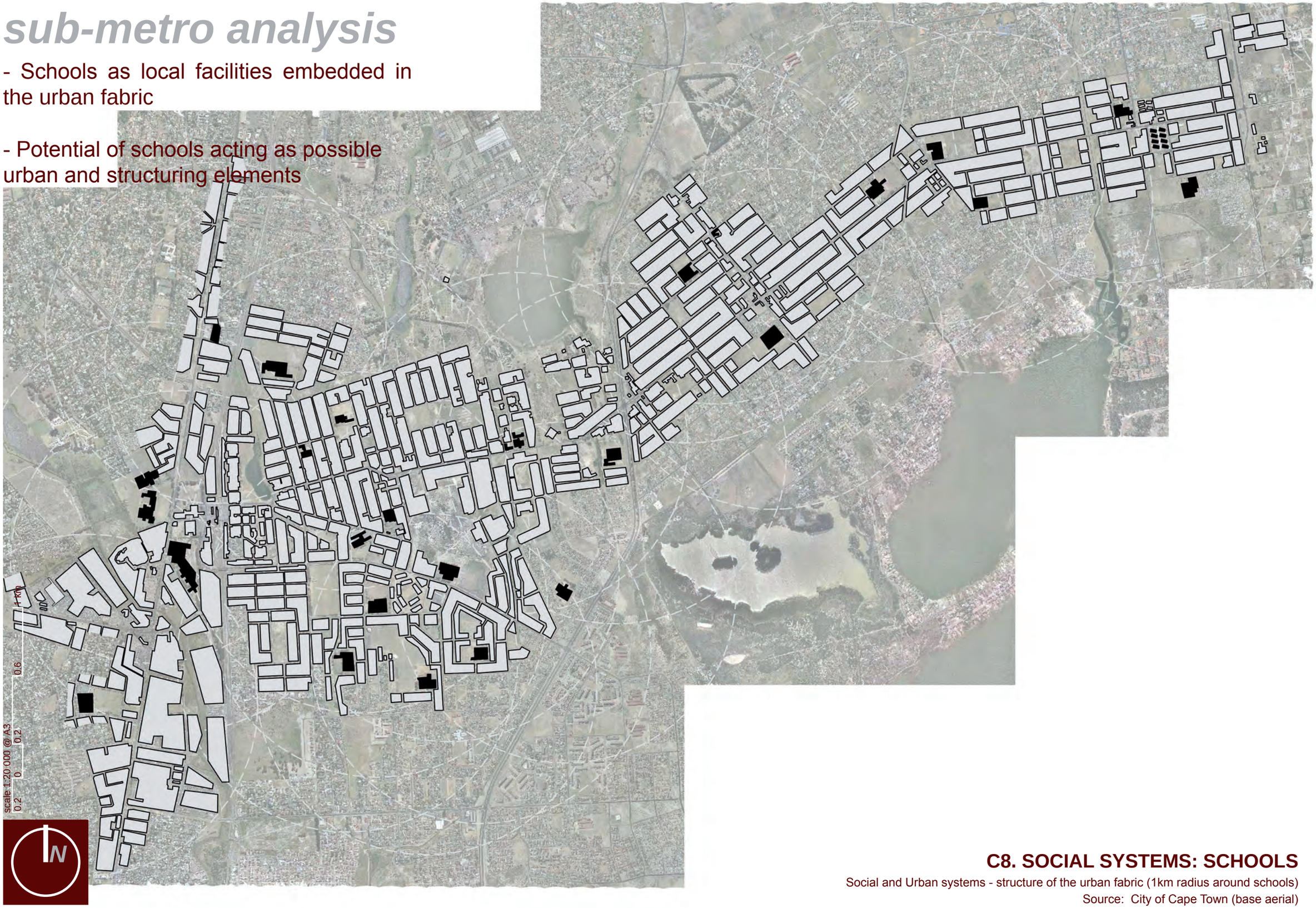
C7. URBAN SYSTEMS - ACCESS

Public transport - railway and mini-bus taxi with 1km radius
Source: City of Cape Town (base aerial)

sub-metro analysis

- Schools as local facilities embedded in the urban fabric

- Potential of schools acting as possible urban and structuring elements



C8. SOCIAL SYSTEMS: SCHOOLS

Social and Urban systems - structure of the urban fabric (1km radius around schools)
Source: City of Cape Town (base aerial)

sub-metro analysis

- Princess Vlei: Claremont Beach

- Rehabilitation of the vlei by local residents

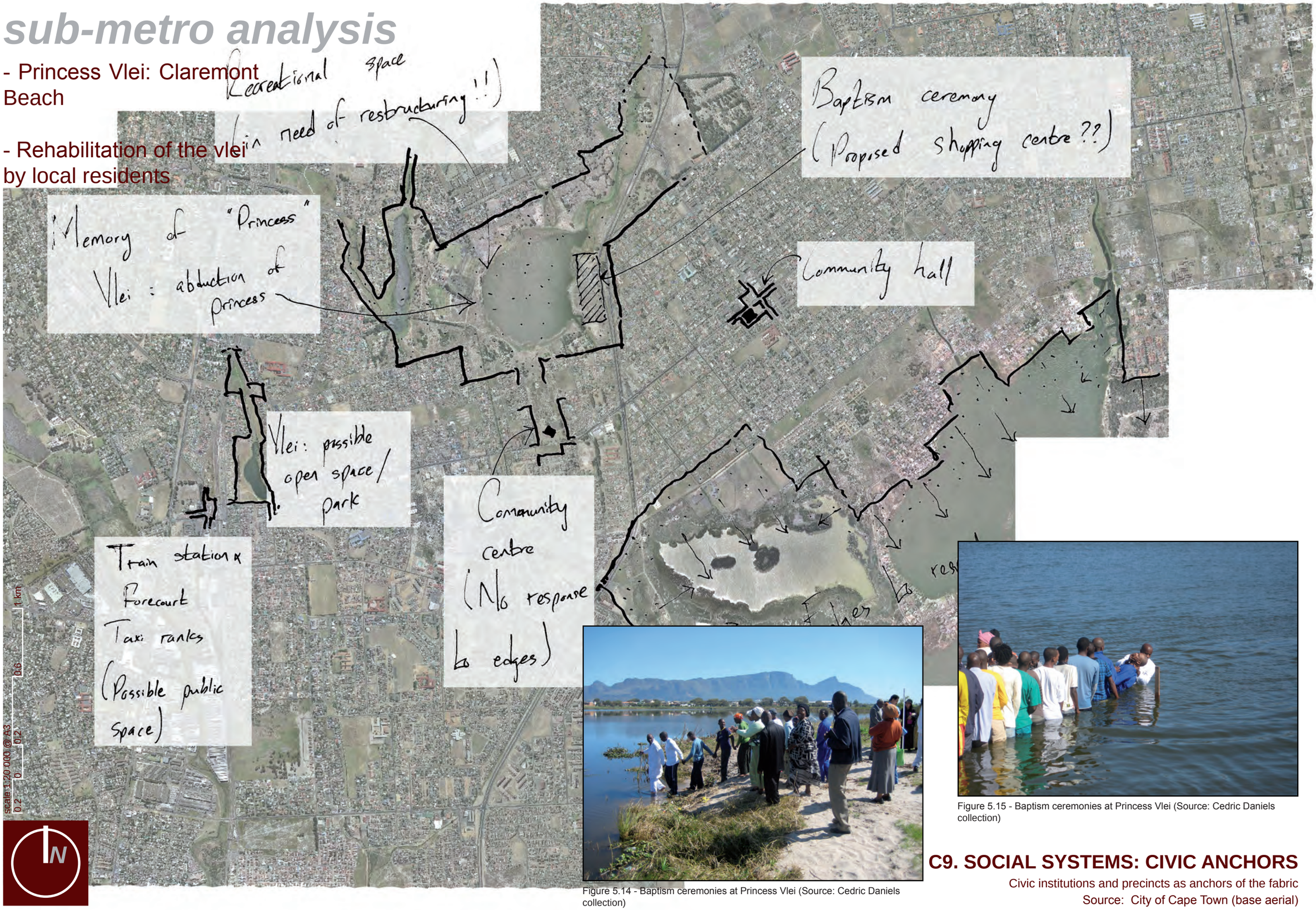


Figure 5.14 - Baptism ceremonies at Princess Vlei (Source: Cedric Daniels collection)

Figure 5.15 - Baptism ceremonies at Princess Vlei (Source: Cedric Daniels collection)

C9. SOCIAL SYSTEMS: CIVIC ANCHORS

Civic institutions and precincts as anchors of the fabric
Source: City of Cape Town (base aerial)

sub-metro analysis

- Introduction of shopping centres (eg Blue Route Mall) killed local economy

- Retreat Road as an activity spine fairly run down

Busy Corner Centre and taxi ranks

Small to medium-scale economic activity but in a fairly rundown condition since Blue Route Mall has been built

Small shopping centres next to mobility route Prince George Drive

Various shopping centres (Blue Route Mall & Pick'n Pay supermarket)

Industrial areas

scale 1:20 000 @ A3
0 0.2 0.4 0.6 1 km

Figure 5.16 - Shopping centre adjacent to Main Road (Blue Route Mall in the background) (Author's collection 29/08/09)

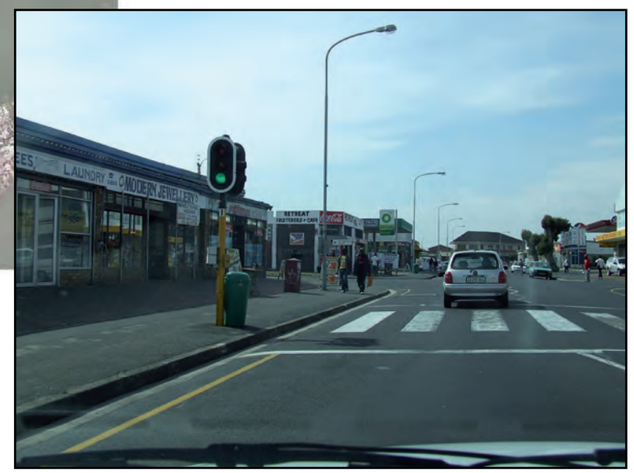


Figure 5.17 - Retreat Road in a fairly rundown condition (Source: Author's collection 29/08/09)

Figure 5.18 - Busy Corner Centre as a vibrant shop next to taxi ranks (Source: Author's collection 29/08/09)

C10. ECONOMIC SYSTEMS

Anchors of economic activity

Source: City of Cape Town (base aerial)

sub-metro analysis

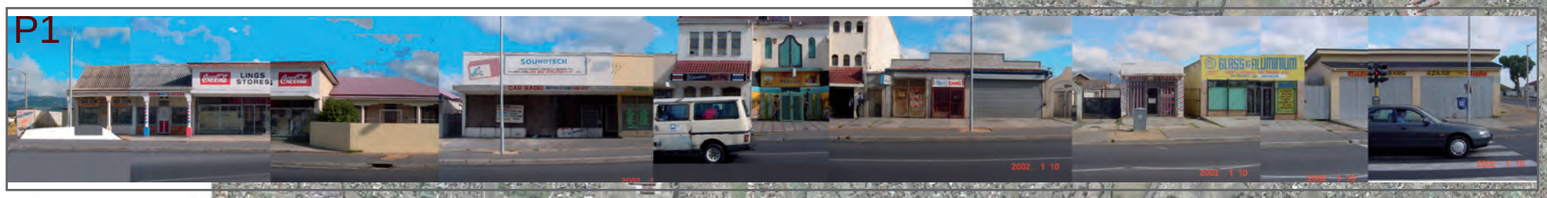


Figure 5.19 - Retreat Road facade looking up towards Princess Vlei (Source: ARG Design ±2002)

Figure 5.20 - Retreat Road facade looking up towards Princess Vlei (Source: ARG Design ±2002)

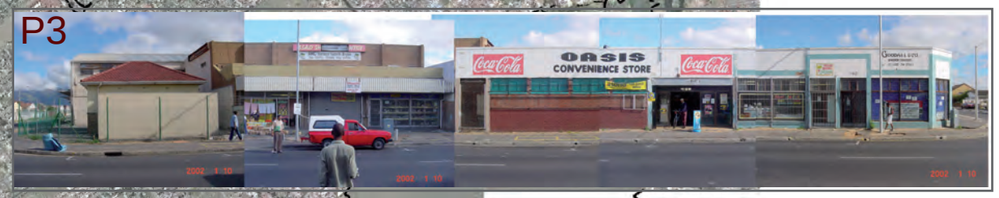


Figure 5.21 - Retreat Road facade looking up towards Princess Vlei (Source: ARG Design ±2002)

Figure 5.22 - Retreat Road facade looking up towards Princess Vlei (Source: ARG Design ±2002)

Figure 5.23 - Retreat Road facade looking up towards Princess Vlei (Source: ARG Design ±2002)

Figure 5.24 - Retreat Road facade looking up towards Princess Vlei (Source: ARG Design ±2002)

C11a. SUB-METRO CONTEXT

Context for sub-metro intervention

Source: City of Cape Town (base aerial)

Figure 5.25 - Retreat Road facade looking up towards Princess Vlei (Source: ARG Design ±2002)

Figure 5.26 - Retreat Road facade looking up towards Princess Vlei (Source: ARG Design ±2002)

Even though these street facades are from ±2002, they still provide a fairly good idea of the quality of Retreat Road as the fabric of Retreat Road has not undergone much change or hardly any change.

Figure 5.27 - Retreat Road facade looking up towards Rondevlei (Source: ARG Design ±2002)

Figure 5.28 - Retreat Road facade looking up towards Rondevlei (Source: ARG Design ±2002)

Figure 5.29 - Retreat Road facade looking up towards Rondevlei (Source: ARG Design ±2002)

Figure 5.30 - Retreat Road facade looking up towards Rondevlei (Source: ARG Design ±2002)

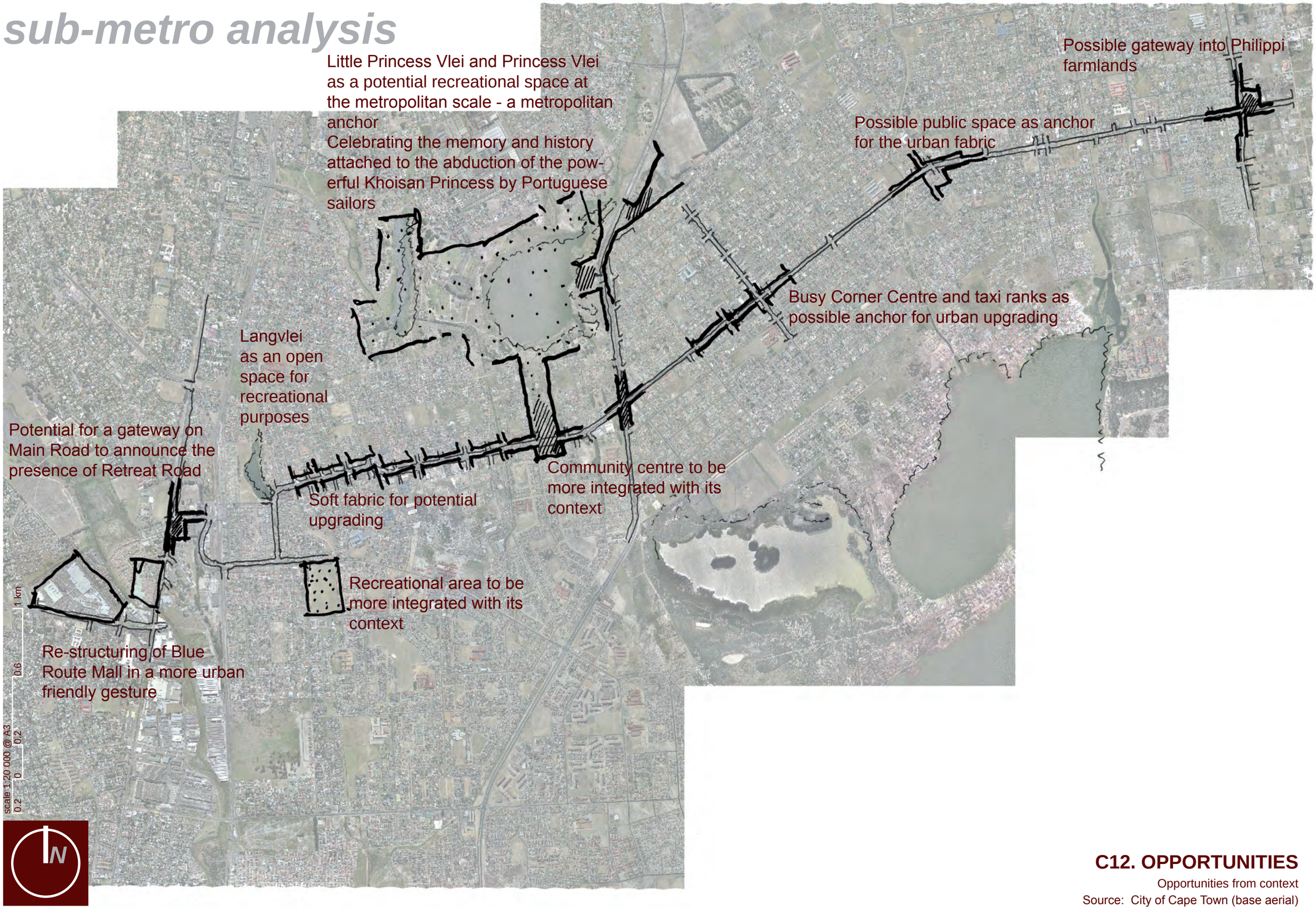
Figure 5.31 - Retreat Road facade looking up towards Rondevlei (Source: ARG Design ±2002)

Figure 5.32 - Retreat Road facade looking up towards Rondevlei (Source: ARG Design ±2002)

C11b. SUB-METRO CONTEXT

Context for sub-metro intervention
Source: ARG Design

sub-metro analysis



C12. OPPORTUNITIES

Opportunities from context

Source: City of Cape Town (base aerial)

sub-metro analysis

Vlei in a degraded and neglected state

Railway line and station as physical barriers

Predominantly residential fabric with random sparse of mixed-use activities

Mobility route as a physical barrier

Fabric in rundown condition

Kink in road as an inhibitor to development and the integration of Retreat Road and Main Road - flow of energy is disturbed

scale 1:20 000 @ A3
0.2 0 0.2 0.6 1 km

Figure 5.33 - Retreat train station and railway line as a physical barrier (Source: Author's collection 09/10/09)

C13. CONSTRAINTS

Constraints from context
Source: City of Cape Town (base aerial)

not much has changed over the years... it needs a BIG BANG!!!

±2002

±2005

±2009

C14. MORPHOLOGY OF RETREAT RD

Description

Source: ±2002 - ARG Design | ±2005 - City of Cape Town | ±2009 - Google Earth

sub-metro anchors

5.2 Urban anchoring at the sub-metropolitan scale

The following points have been taken into consideration while formulating a strategy at the metropolitan scale:

- The role of the site at the metropolitan scale.
- Issues of fragmentation and segregation as a legacy of the apartheid era has always been high up on the list of transformation measures over a decade ago – the 1994 democratic elections promised a lot for the future but where do we stand fifteen years later...***Drastic*** measures to facilitate integration of the urban fabric.
- Main Road corridor as a metropolitan urban element and Retreat Road transverse connector as sub-metropolitan urban element.
- Different natures of urban anchors at all scales of urbanism.

Figure 5.34 - Nyanga ... 15 years later still the same ... (Source: Author's collection 08/06/08)

sub-metro potential

Public anchor with the existing schools as the main urban elements

Public anchor with a market for the produce of Philippi farmlands as the main urban element

Public transport anchor with the transport interchange as the main urban element

Local anchor with Busy Corner Centre and the taxi ranks as the main urban elements

Community anchor with the community centre as the main urban element

scale 1:20 000 @ A3
0 0.2 0.6 1 km

N

C15. URBAN ANCHORS

Areas of intervention for urban anchoring
Source: City of Cape Town (base aerial)

sub-metro [urban] anchor

- Public sector approach
- Big scale plans for parks and recreational areas
- Densification (???) of edges along spines
- Community centre more integrated with context

Rehabilitation of Little Princess Vlei and Princess Vlei as a possible recreational area for the locality

Encourage densification along edges and spines

Concrete wall around community centre to be taken down with a view to be more integrated with the context

scale 1:10 000 @ A3
0.1 0 0.1 0.3 0.5 km

N

Key plan

Figure 5.35 - Enclosed and introverted nature of community centre (Source: Author's collection 09/10/09)

Figure 5.36 - Sand dunes next to vleis closer to community centre (Source: Author's collection 09/10/09)

D1a. COMMUNITY ANCHOR

Public-led approach of urban anchoring

Source: Chief Directorate: Surveys and Mapping (base diagram)

sub-metro [urban] anchor

- Private sector approach
- Land speculation and market dictates...
- Densification of edges with the only aim of making profit - apartment blocks
- Vleis converted into a private and exclusive sports club

Block of flats overlooking vleis

Private and exclusive sports club

Proposed shopping centre

Commercial and retail precinct

scale 1:10 000 @ A3
0.1 0 0.1 0.3 0.5 km

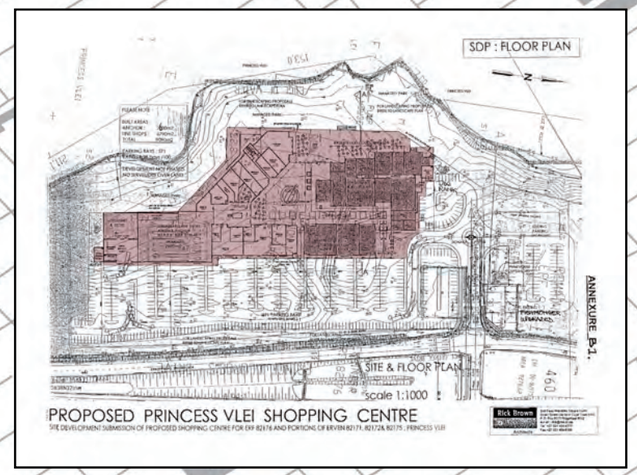


Figure 5.37 - Proposed shopping centre next to Princess Vlei awaiting approval (Source: Urban Design Branch)

Figure 5.38 - Proposed shopping centre to overlook area where baptism ceremonies at Princess Vlei take place (Source: Cedric Daniels collection)

D1b. COMMUNITY ANCHOR

Private-led approach of urban anchoring

Source: Chief Directorate: Surveys and Mapping (base diagram)

sub-metro [urban] anchor

Denser residential fabric surrounding vleis catering for various income levels

Public sports fields for community events

Princess Vlei and Little Princess Vlei to be rehabilitated as a community project - enhancing the importance of eco-education and as a social event

Landscaped park for baptism and religious related ceremonies

Urban forecourt to vleis dedicated to the memory associated with history of thge Pricess and the vlei

scale 1:10 000 @ A3
0 0.1 0.3 0.5 km

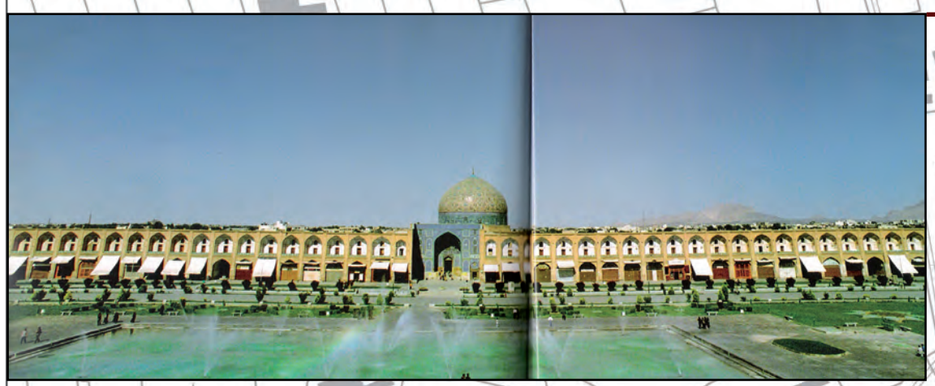


Figure 5.39 - Grand scale of Imam Square in Isfahan (Source: Dr Leier, 2004: p 160 - 161)

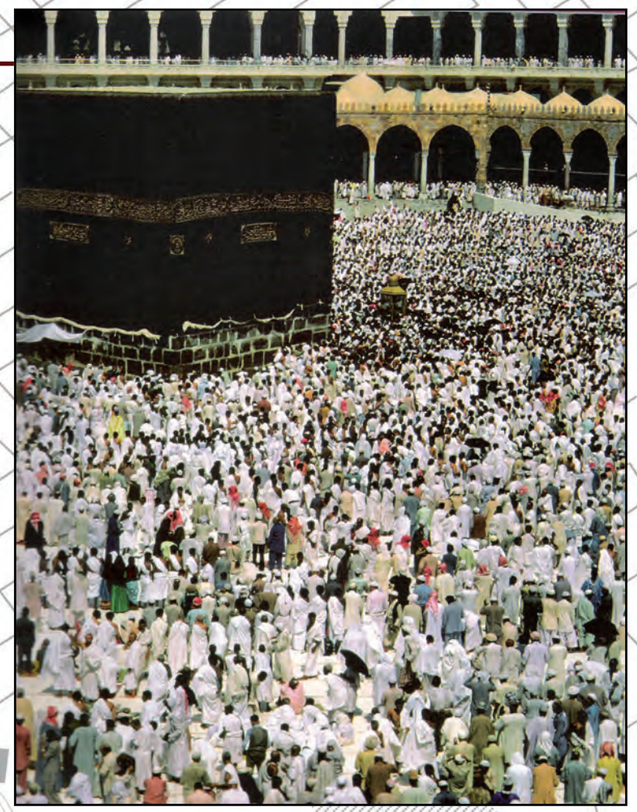


Figure 5.40 - Meaning of religious ceremonies: inner court of mosque in Mecca (Source: Dr Leier, 2004: p 157)

D2. COMMUNITY ANCHOR

Consolidated approach between public- and private-led
Source: Chief Directorate: Surveys and Mapping (base diagram)

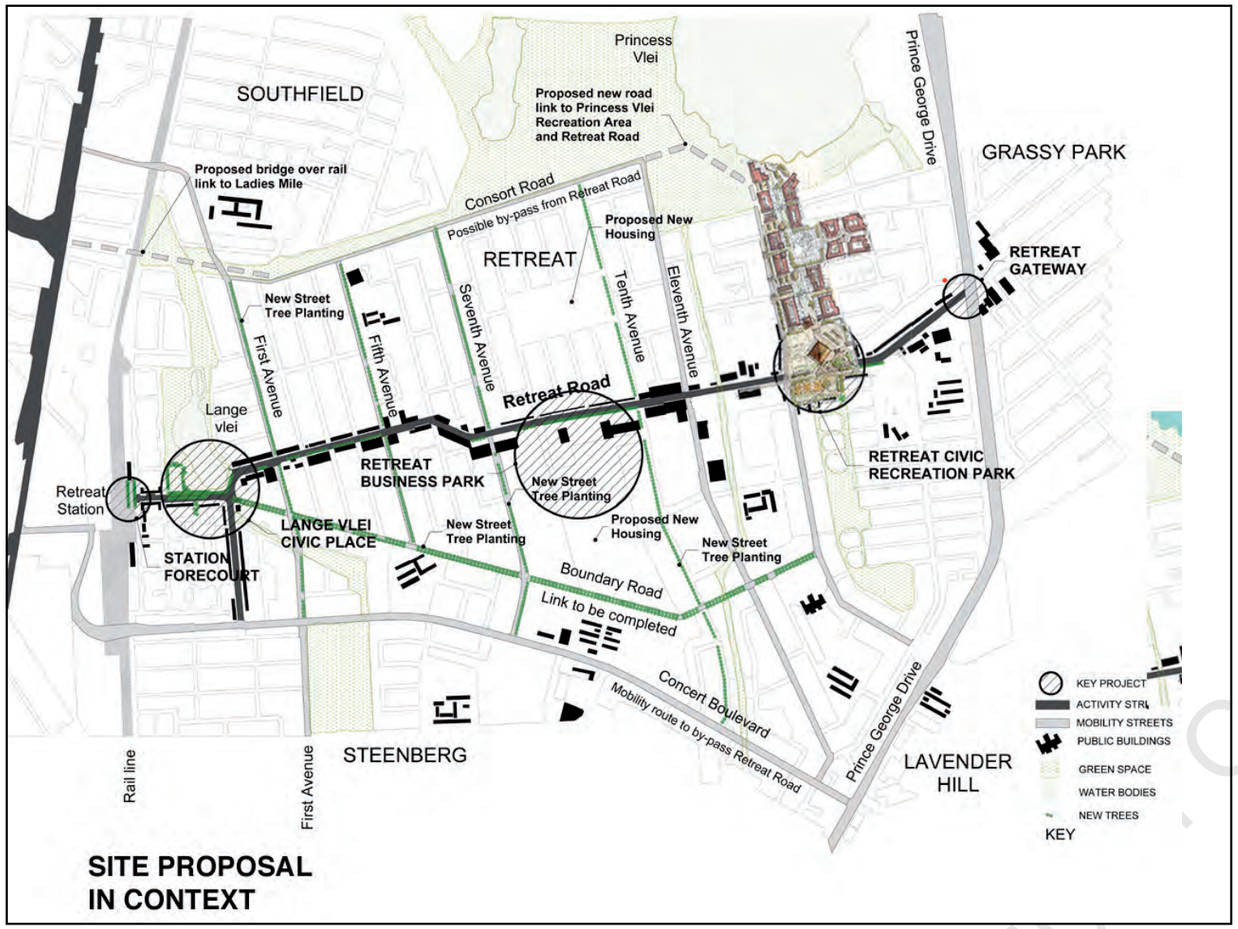


Figure 5.41 - ±2002 urban design framework for upgrading of Retreat Road (Source: ARG Design)

- Framework for future development and guidance

- Rationalisation of links and re-structuring of Retreat Road

- Identification of key projects and possible sites for investment

- Civic node and recreation park as an anchor

- Community centre no more isolated

Figure 5.42 - Retreat Road civic node as a key project (Source: ARG Design)

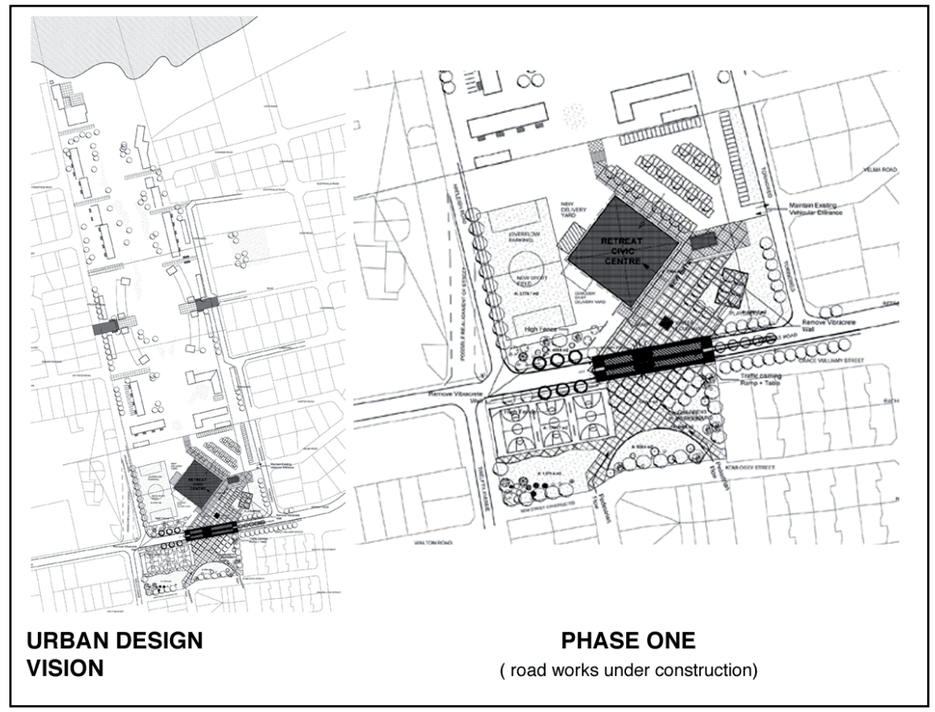


Figure 5.43 - Role of civic node & phasing (Source: ARG Design)

PREVIOUS PROPOSALS

Urban design framework identifying key projects
Source: ARG Design

sub-metro [urban] anchor

- Public sector approach
- Big scale plans for parks and recreational areas
- Densification (???) of edges along spines
- Reinforce pedestrian link across railway through overhead bridges...

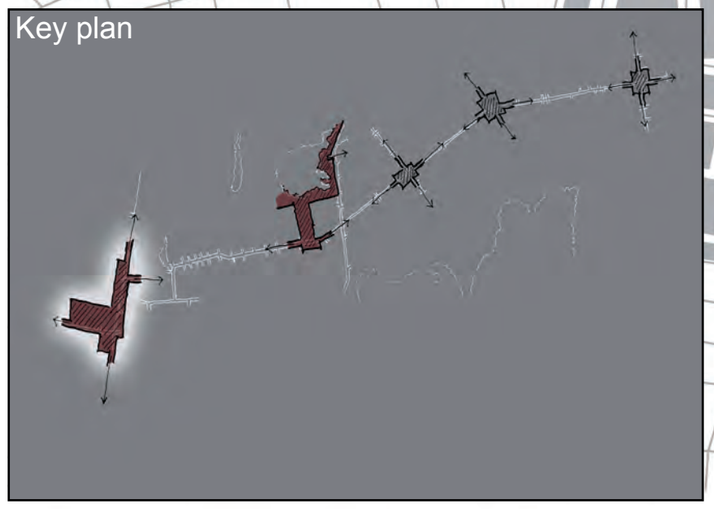
Landscaping of Langvlei into a better open space

Mixed-use activities along spine

Encourage buildings to face onto canal / river

Pedestrian axis from train station to Retreat Road

scale 1:10 000 @ A3
0.1 0 0.1 0.3 0.5 km



D3a. TRANSPORT INTERCHANGE ANCHOR

Public-led approach of urban anchoring

Source: Chief Directorate: Surveys and Mapping (base diagram)

sub-metro [urban] anchor

Apartment block with parking all around

Apartment block with parking all around or even a hotel overlooking vlei

Existing shopping centres

Apartment block with parking all around

scale 1:10 000 @ A3
0 0.1 0.3 0.5 km

Figure 5.44 - Langvlei as visual element (Source: Author's collection 09/10/09)

D3b. TRANSPORT INTERCHANGE ANCHOR

Private-led approach of urban anchoring

Source: Chief Directorate: Surveys and Mapping (base diagram)

Figure 5.45 - Train passes in the middle of market in Bangkok (Source: Deletethis)

Figure 5.46 - Level crossing of road and railway in Vancouver in Canada (Source: Wikipedia 22/10/09)

Figure 5.47 - Level crossing of road and railway in North Carolina in USA (Source: Wikipedia 22/10/09)

railway line not seen as a physical barrier creating segregation

Figure 5.48 - Train station Diemen in Amsterdam (Source: Wikipedia 22/10/09)

Figure 5.49 - St Marys Bay station level crossing in Kent in UK (Source: Wikipedia 22/10/09)

Figure 5.50 - Proper infrastructure for level crossing of pedestrian and vehicles (Source: Level Crossing Strategy Council 22/10/09)

- pedestrian safety education: increase awareness to obey rules, create awareness of danger and increase safe behaviour of pedestrians

- clearly indicated and dedicated level crossings for pedestrians and vehicles

LEVEL CROSSING PRECEDENTS

Level crossings for both vehicles and pedestrians
Source: various

sub-metro [urban] anchor

Relocation of taxi ranks adjacent to main road as a gateway for announcing Retreat Road

Public space following the geometry of Old and New Retreat Road as a memory of what was there before

Possible taxi stop and small-scale commercial activities

Existing canal from Little Princess Vlei to be opened up and landscaped as a possible pedestrian trail with a community public square as the focal point

Possible taxi stop

Gateway to vlei behind shopping centres

High quality public space around train station as opposed to forecourt acting as a parking area

Railway fence to be removed to reinforce pedestrian links between the 2 sides of the railway with the train station seen as the main integrator between the 2 sides

Experimentation with shopping centre adopting a more extroverted nature with an emphasis on public transport such as taxi ranks facility integrated with new re-development

Public space as part of re-structuring also acting as possible taxi stops - a point where energy gets dissipated into the fabric

scale 1:10 000 @ A3
0 0.1 0.3 0.5 km

Figure 5.51 - Space of relief and for pausing in the fabric: Strasbourg, France (Source: Aarvin Jahajea's collection, August 2009)

Figure 5.52 - Town Hall square in Vilnius in Lithuania (Source: Dr Leier, 2004: p 121)

Figure 5.53 - Railway line without fencing: snapshots of train passing through the middle of a market in Bangkok with red elipse on last snapshot showing the location of the railway (Source: Guy sports)

D4. TRANSPORT INTERCHANGE ANCHOR

Consolidated approach between public- and private-led
Source: Chief Directorate: Surveys and Mapping (base diagram)

local anchoring

5.3 Urban anchoring at the local scale:

The public transport interchange anchor was chosen as an example for demonstrating the possible implementation of urban anchoring at the local scale. This section of the dissertation deals with the various layers that add up to the notion of urban anchoring and was unpacked as follows:

- Urban rooms in the sense of the definition of the public and private realms and the notion of accessible space v/s non-accessible space.
- Urban landmarks as a means of orientation and identification that facilitate the legibility of the urban structure.
- Urban lounge as possible spaces of relief and for pausing in an urban fabric – spaces where energy gets dissipated and enhances the stop-start nature of movement of an activity spine.
- Points of access – predominantly public transport.
- Tactile nature of the fabric: soft landscaping, hard landscaping, green elements, colonnades...

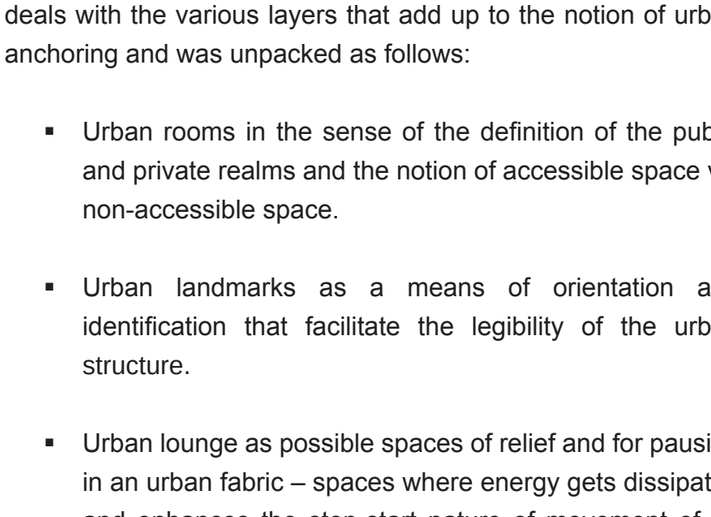


Figure 5.54 - Fabric before

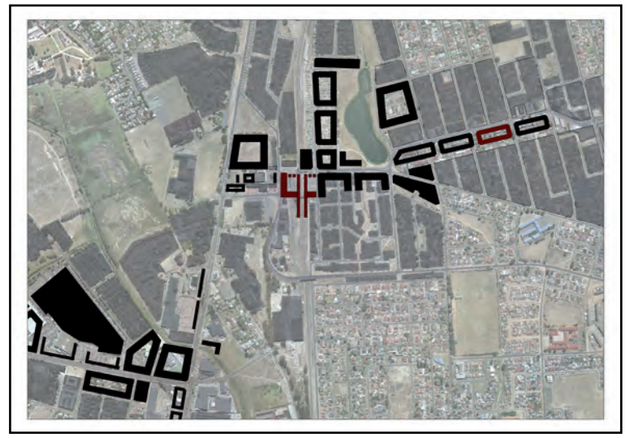


Figure 5.55 - Possible fabric after

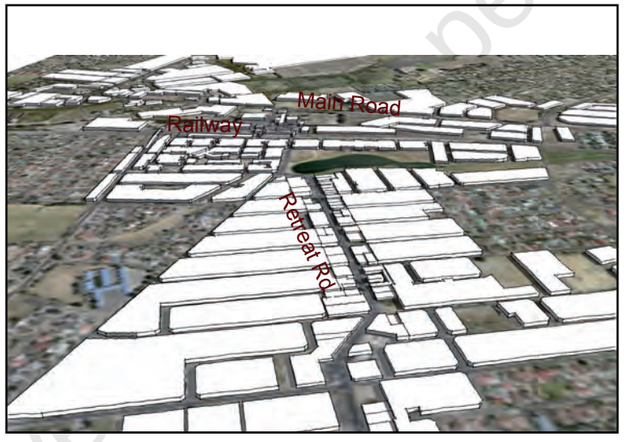


Figure 5.56 - View of existing fabric from Retreat Road towards Main Road

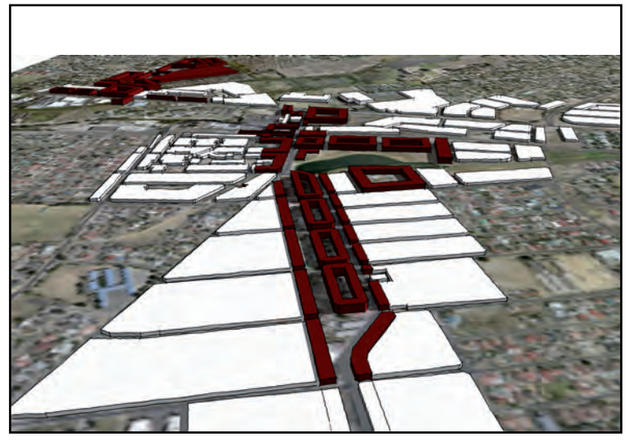


Figure 5.57 - Anticipated vision looking from Retreat Road towards Main Road

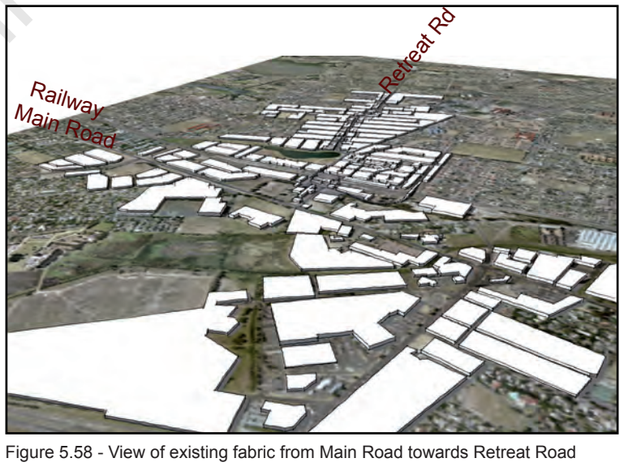


Figure 5.58 - View of existing fabric from Main Road towards Retreat Road

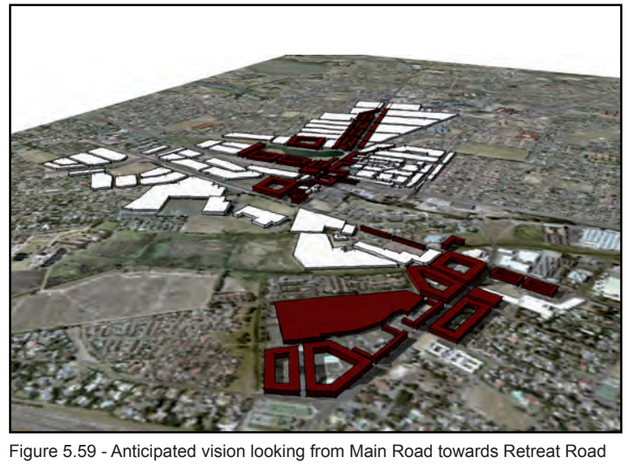


Figure 5.59 - Anticipated vision looking from Main Road towards Retreat Road

local [urban] anchor

Figure 5.60 - Minimum benchmark for development: Athlone Old Klipfontein Road (Source: Author's collection 16/10/09)

Figure 5.61 - Busy road in Amsterdam: precedent for Main Road... (Source: Aarvin Jahajea's collection, August 2009)

Langvlei as a green room

Main Road urban corridor to be continued and consolidated - a move away from suburbia

Station Road and Concert Boulevard becomes a mobility spine as a backup to Retreat Road

Realignment of Retreat Road and extended until Main Road

Figure 5.62 - Park in Amsterdam (Source: Aarvin Jahajea's collection, August 2009)

Figure 5.63 - Mixed-use spine in Amsterdam: scale for a transverse connector... (Source: Aarvin Jahajea's collection, August 2009)

E1. URBAN ROOMS

Definition of the public realm and accessible space

Source: City of Cape Town (base aerial)

local [urban] anchor

We can dream ... Public sculpture as a landmark

The architecture of the place as a landmark

Contribution of a building to its surrounding tissue as a landmark

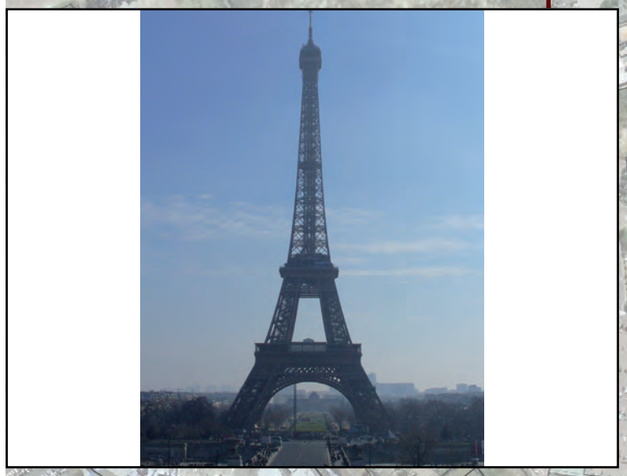


Figure 5.64 - Eiffer Tower in Paris (Source: Aarvin Jahajea's collection, August 2009)

Figure 5.65 - Fuller Building in New York (Source: Gossel et al, 2005: p 46)

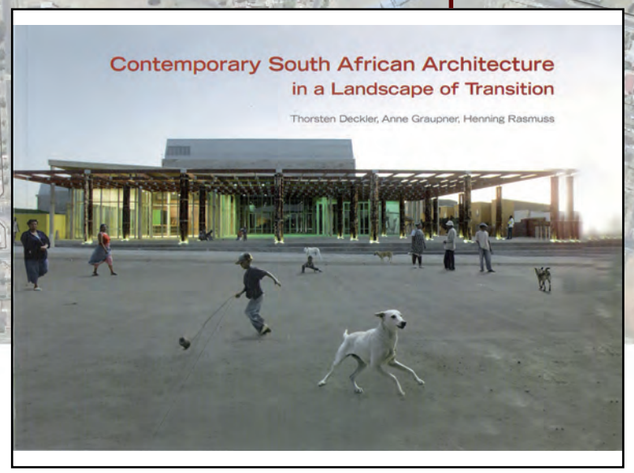


Figure 5.66 - Entrance to Red Location Museum in Port Elizabeth (Source: Deckler et al, 2006: cover page)

E2. LANDMARKS

For orientation and identification - pedestrian friendliness

Source: City of Cape Town (base aerial)

local [urban] anchor

Figure 5.67 - Baragwanath Transport Interchange in Soweto (Source: Deckler et al, 2006: p 64)

Taxi ranks with activity edges

Train station without railway fencing

Pedestrian friendly squares and spaces

Figure 5.68 - Philippi public transport interchange station forecourt (Source: Deckler et al, 2006: p 78)

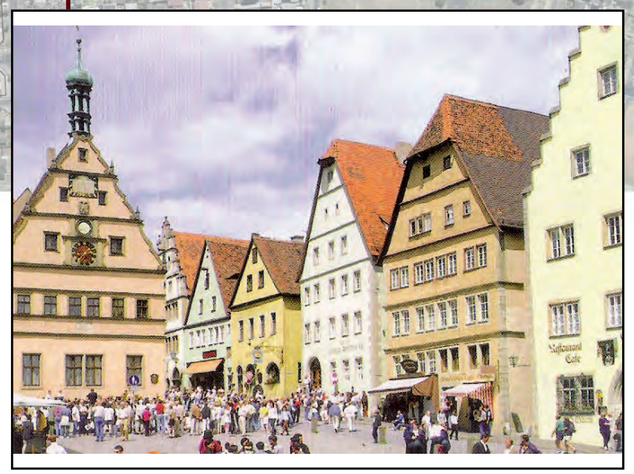


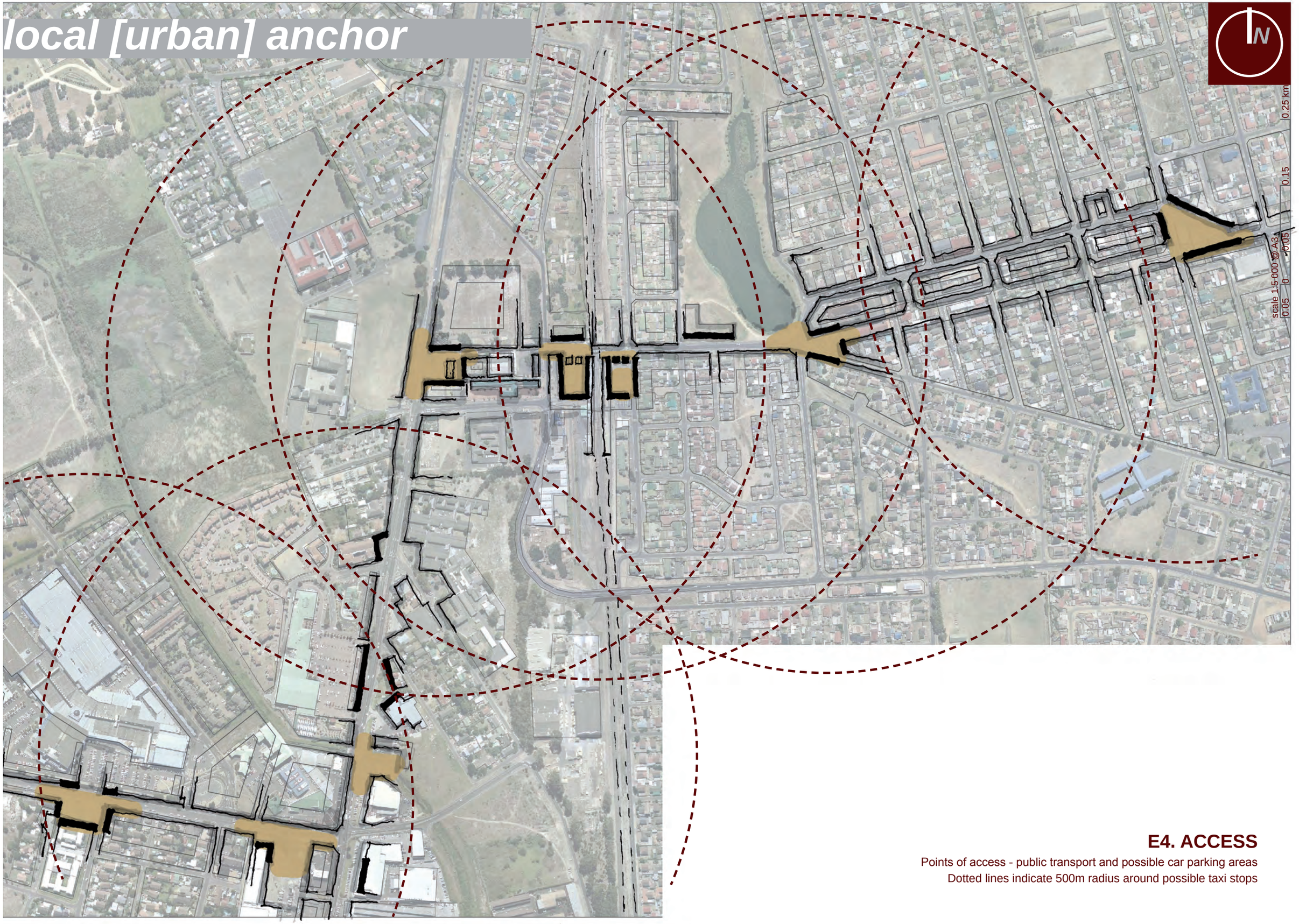
Figure 5.69 - Town Hall Square in Rothenburg in Germany (Source: Dr Leier, 2004: p 121)

E3. URBAN LOUNGE

Space of relief and for pausing - have a break, have a kitkat...

Source: City of Cape Town (base aerial)

local [urban] anchor



E4. ACCESS

Points of access - public transport and possible car parking areas
Dotted lines indicate 500m radius around possible taxi stops

local [urban] anchor

Figure 5.70 - Church Square in Zurich in Switzerland (Source: Dr Leier, 2004: p 88)

Importance of green in an urban environment: as a visual recreation and urban defining elements

Buildings as thresholds

Texture through surface treatment

Pedestrian friendly public walkways

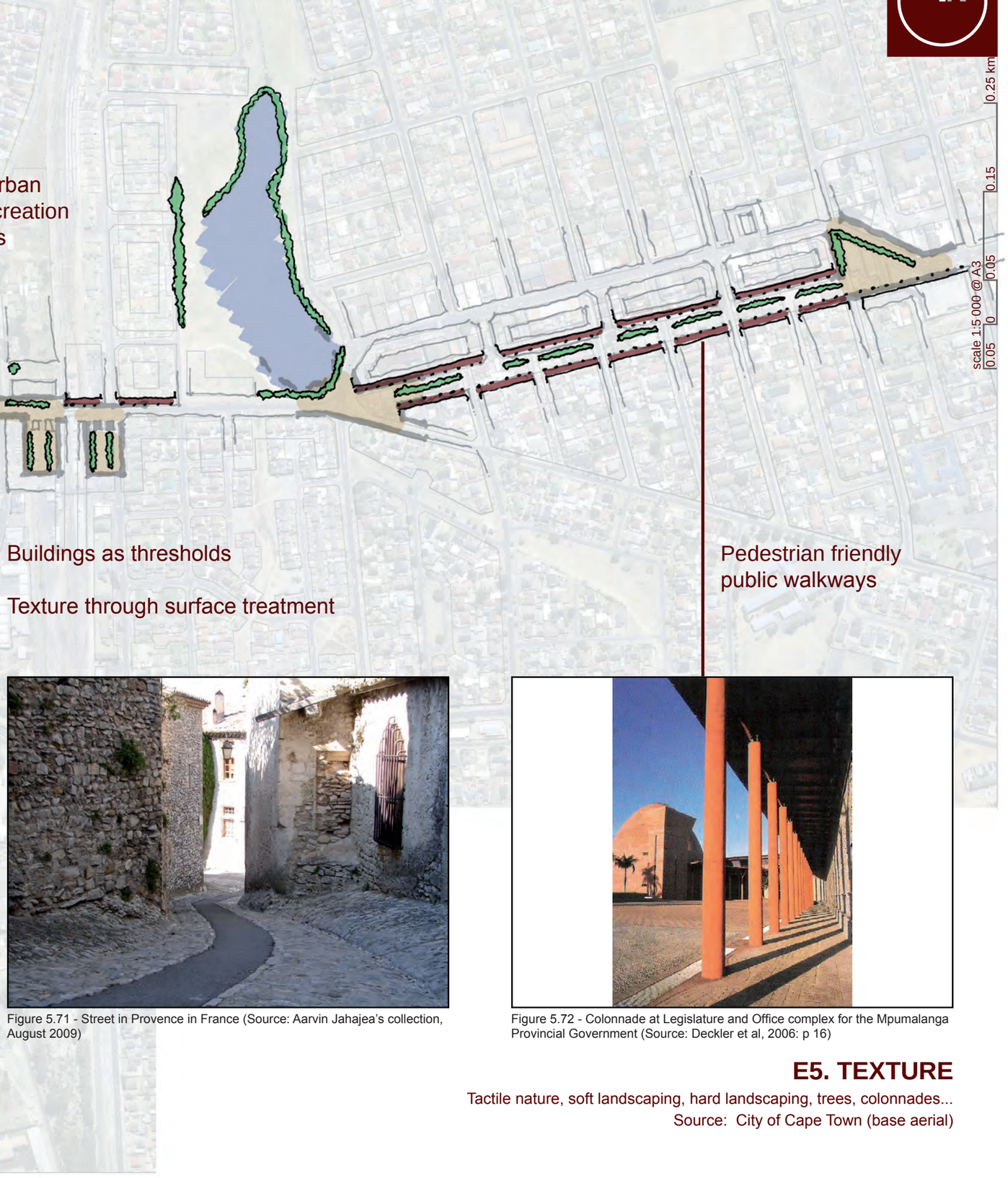


Figure 5.71 - Street in Provence in France (Source: Aarvin Jahajea's collection, August 2009)

Figure 5.72 - Colonnade at Legislature and Office complex for the Mpumalanga Provincial Government (Source: Deckler et al, 2006: p 16)

E5. TEXTURE

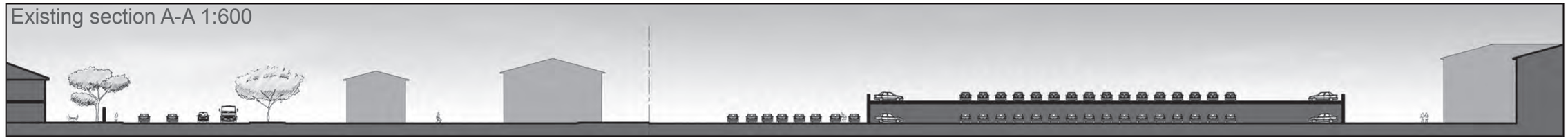
Tactile nature, soft landscaping, hard landscaping, trees, colonnades...

Source: City of Cape Town (base aerial)

local [urban] anchor

scale 1:250 @ A3
2.5 | 0 | 2.5 | 7.5 | 12.5 m

Existing section A-A 1:600



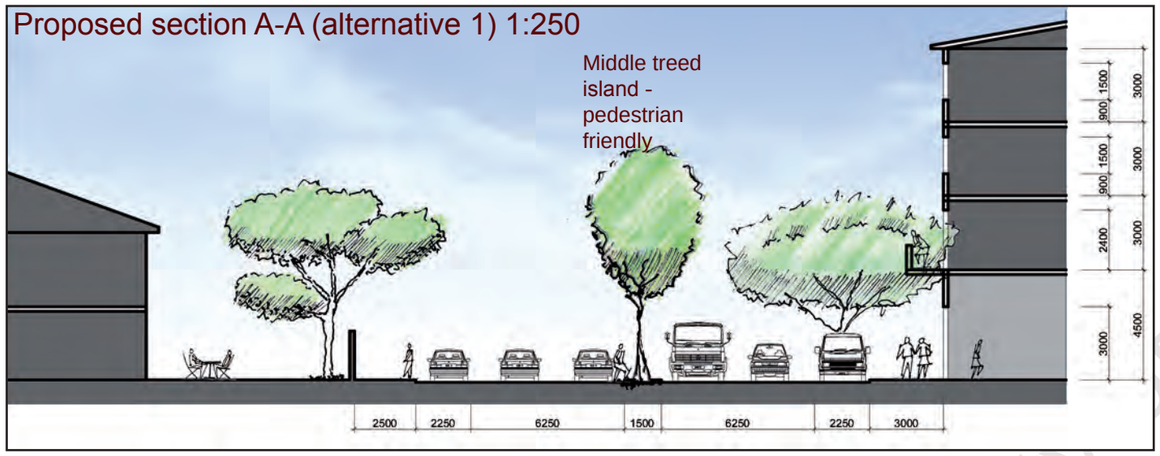
4 lanes - both directions

Parking area for Blue Route Mall

Parking structure for Blue Route Mall

Blue Route Mall

Proposed section A-A (alternative 1) 1:250



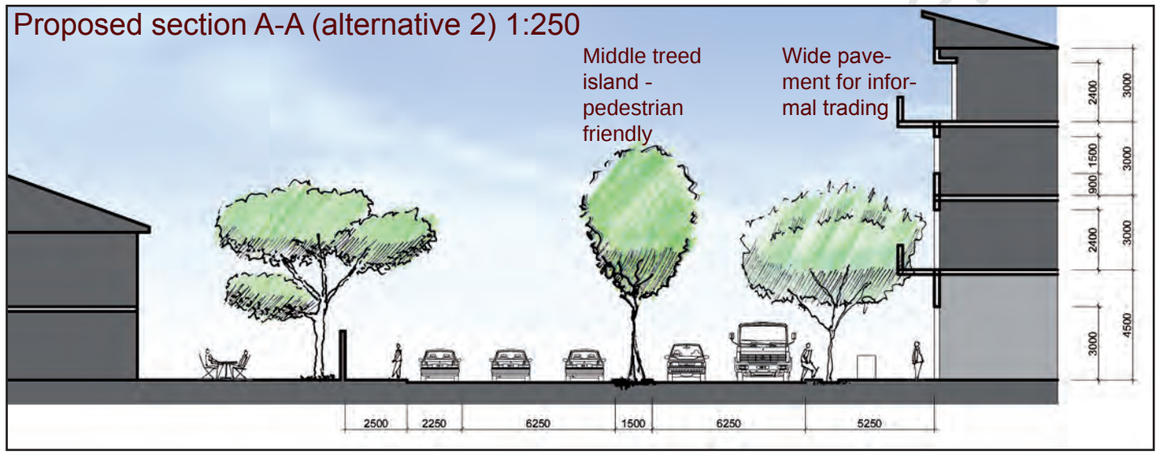
Double lanes with street parking and trees in be-tween

Double lanes with street parking and trees in be-tween

Partially covered public walkway

Retail on ground and offices on upper levels

Proposed section A-A (alternative 2) 1:250



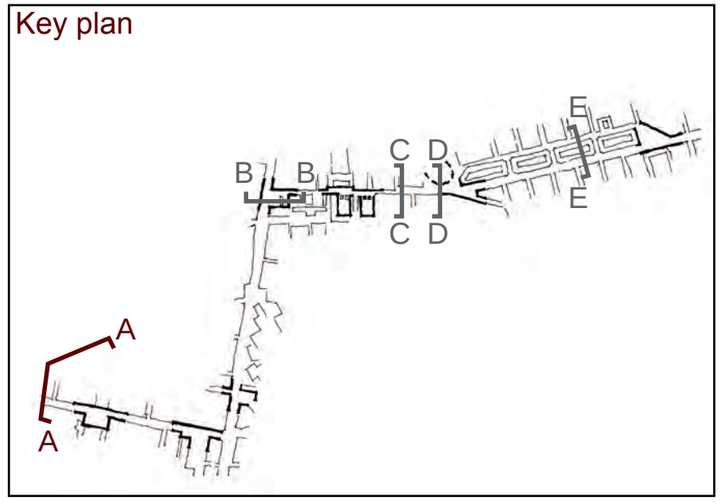
Double lanes with street parking and trees in be-tween

Double lanes

Partially covered public walkway

Retail on ground, offices on middle levels and residential on upper levels

Key plan

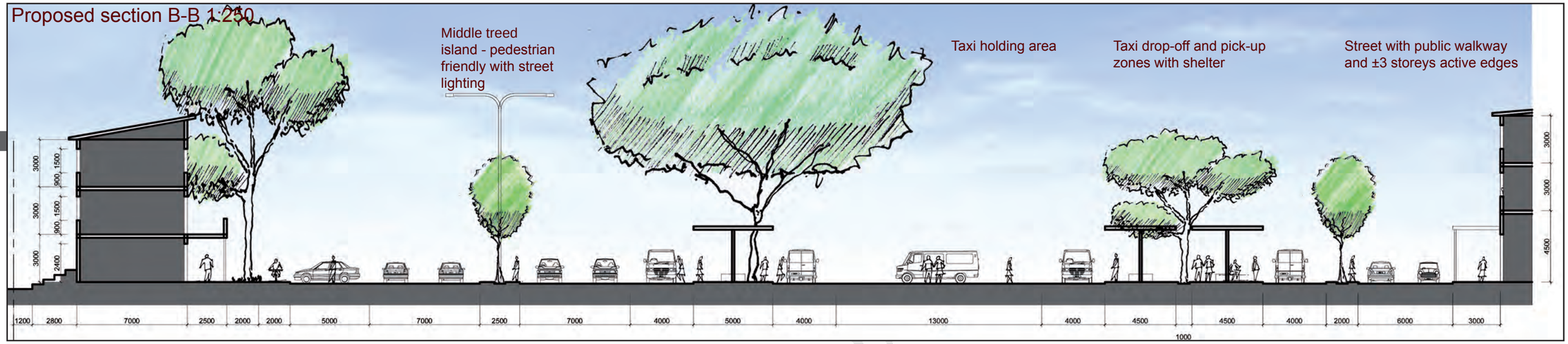


E6. SECTIONS A-A

Existing and anticipated vision
Tokai Road and parking lot of Blue Route Mall

scale 1:250 @ A3
2.5 0 2.5 7.5 12.5 m

Proposed section B-B 1:250



School play-ground

Mixed-use edge to Main Road

Partially cov-ered public walkway - wide enough for cycling and informal trade
Lighting at a pedestrian scale

Double lanes (one direction) and street parking with trees in between

Double lanes (one direction)

Taxi drop-off and pick-up zones with shelter
Good quality lighting at a pedestrian scale

Existing row of trees

Figure 5.73 - Vacant land adjacent to Main Road (Source: Author's collection 29/08/09)

Figure 5.74 - Row of trees on the sides of Main Road (Source: Author's collection 29/08/09)

Figure 5.75 - Playground of school adjacent to Main Rd (Source: Author's collection 29/08/09)

Existing section B-B 1:250

School play-ground

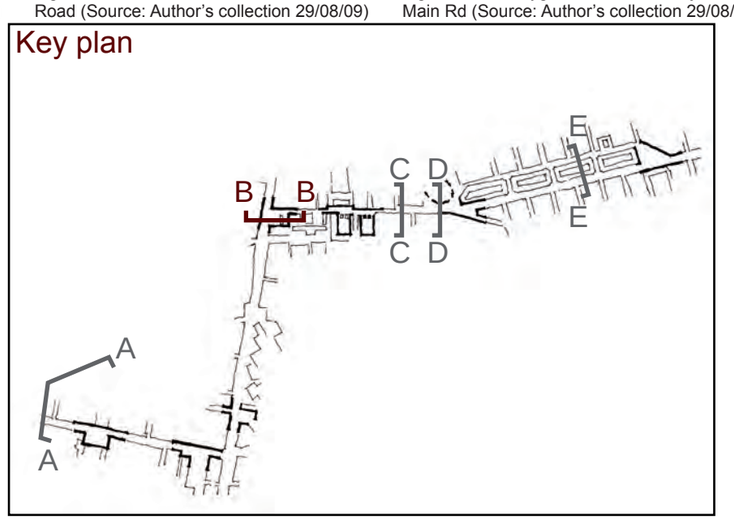
Row of trees defining Main Road

Double and 4 lanes - both directions

Row of trees defining Main Road

Vacant land

Key plan

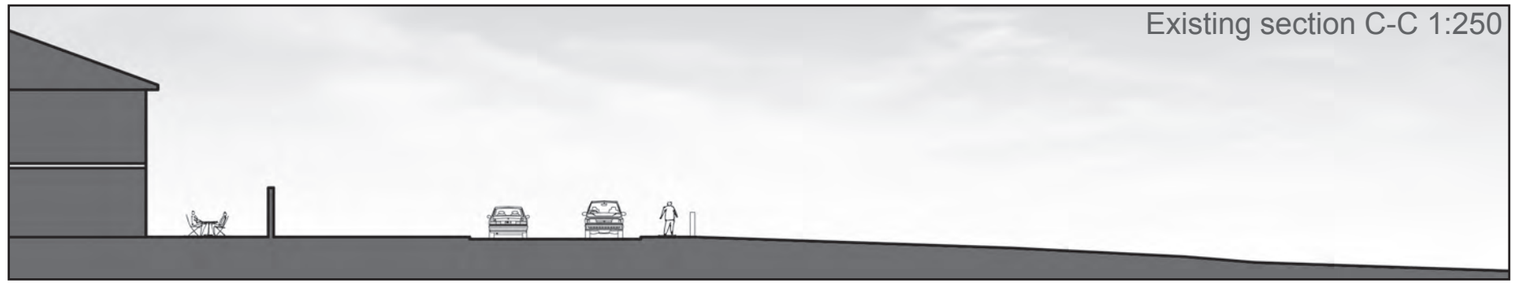


E7. SECTIONS B-B

Existing and anticipated vision
Main Road and proposed taxi rank as gateway to Retreat Road

local [urban] anchor

scale 1:250 @ A3
2.5 | 0 | 2.5 | 7.5 | 12.5 m



Residential (and some offices) with non-responsive boundary wall

Pavement and road reserve

Double lanes - both directions

Unstructured edge to Langvlei and unfriendly pavement

Langvlei

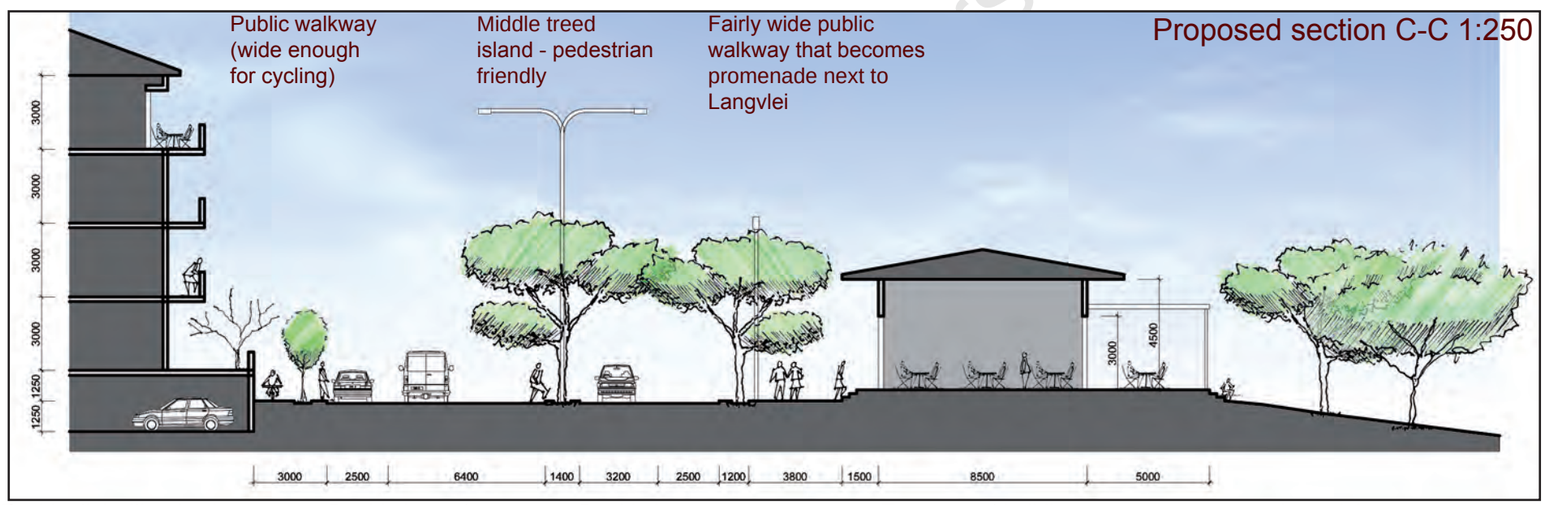
existing conditions and edges - very loose and no rational

Figure 5.76 - View towards train station from Retreat Road side (Source: Author's collection 09/10/09)

Figure 5.77 - Offices facing onto Langvlei... (Source: Author's collection 09/10/09)

Figure 5.78 - View of Langvlei from station (Source: Author's collection 09/10/09)

Figure 5.79 - Edges of Langvlei not properly defined (Source: Author's collection 09/10/09)



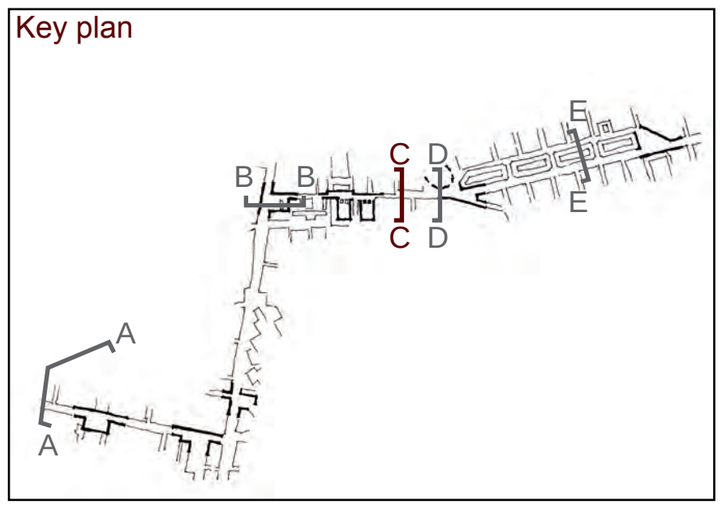
Residential with raised plinth for privacy, gardens and partially sunken parking level

Double lanes (one direction) and street parking

Double lanes (one direction)

Transparent building - pavilion, restaurant, souvenir shop...

Langvlei



E8. SECTIONS C-C

Existing and anticipated vision

Built edge to Langvlei with a pavilion or restaurant - a building that one can walk through

local [urban] anchor

scale 1:250 @ A3
2.5 0 2.5 7.5 12.5 m

Residential (and some offices) with non-responsive boundary wall

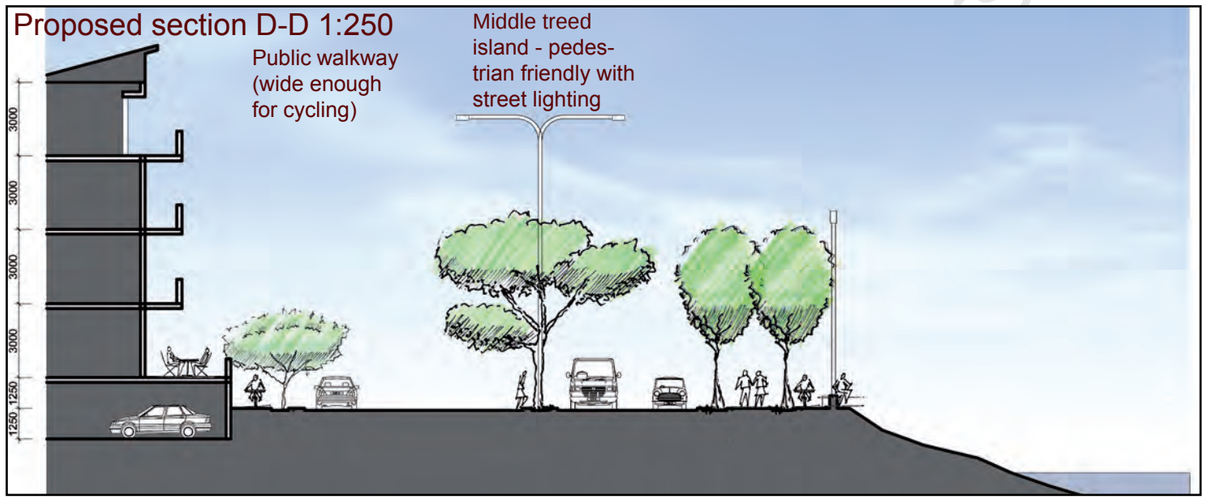
Pavement and road reserve

Double lanes - both directions

Unstructured edge to Langvlei and unfriendly pavement
Poor lighting

Langvlei with poor lighting

Figure 5.80 - View of edge of Langvlei next to New Retreat Road from Old Retreat Road (Source: Author's collection 08/09/09)



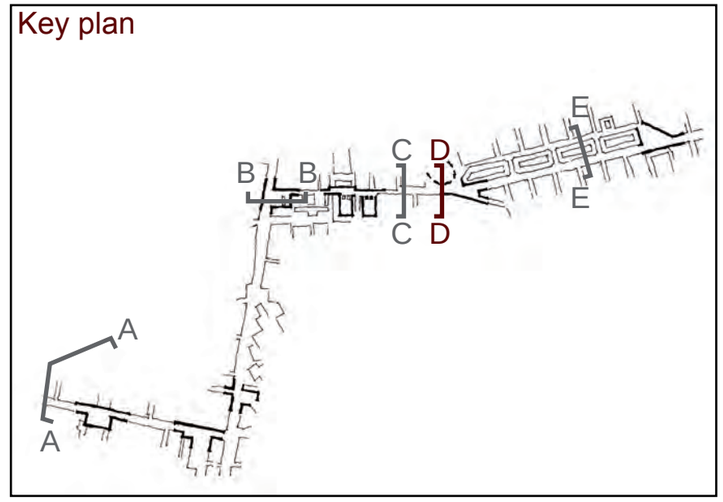
Residential with raised plinth for privacy, gardens and partially sunken parking level

Double lanes (one direction) and street parking

Double lanes (one direction)

Public treed promenade with street furniture and lighting at a pedestrian scale

Langvlei

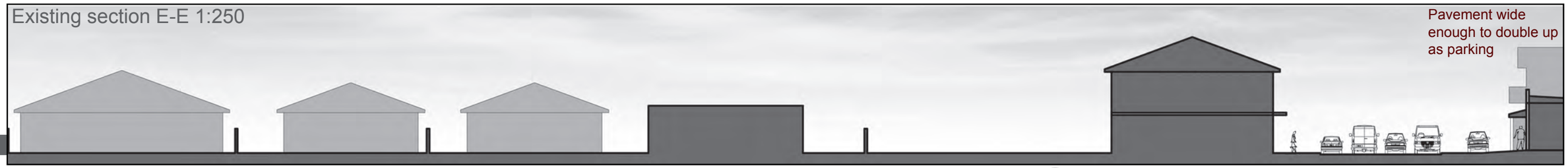


E9. SECTIONS D-D

Existing and anticipated vision
Public promenade as edge to Langvlei

local [urban] anchor

scale 1:250 @ A3
2.5 | 0 | 2.5 | 7.5 | 12.5 m



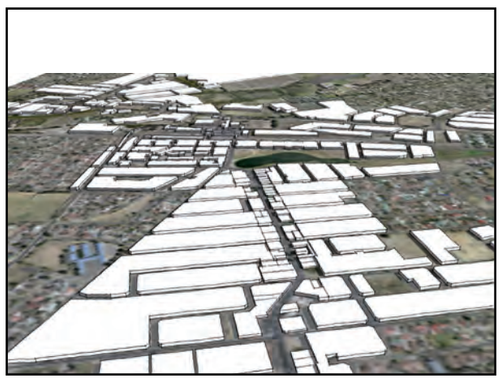


Figure 5.81 - Existing view from Retreat Road

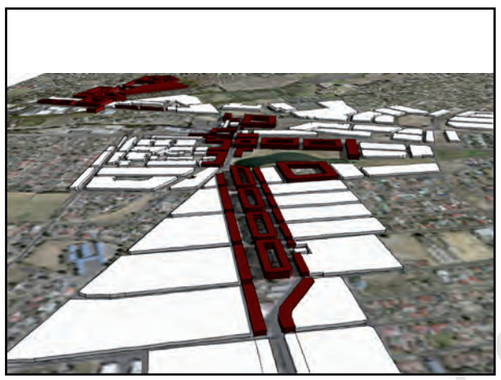


Figure 5.82 - View of New Retreat Road and Old Retreat Road

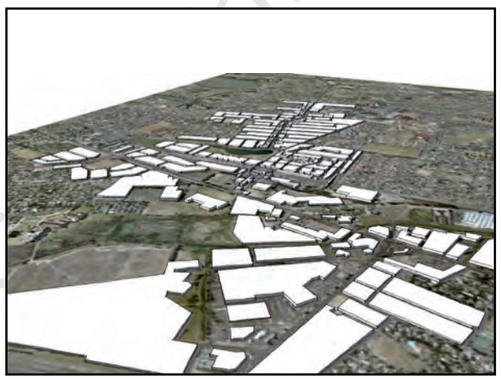


Figure 5.83 - Existing view from Main Road

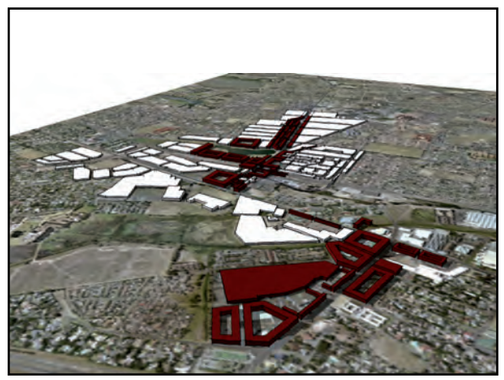
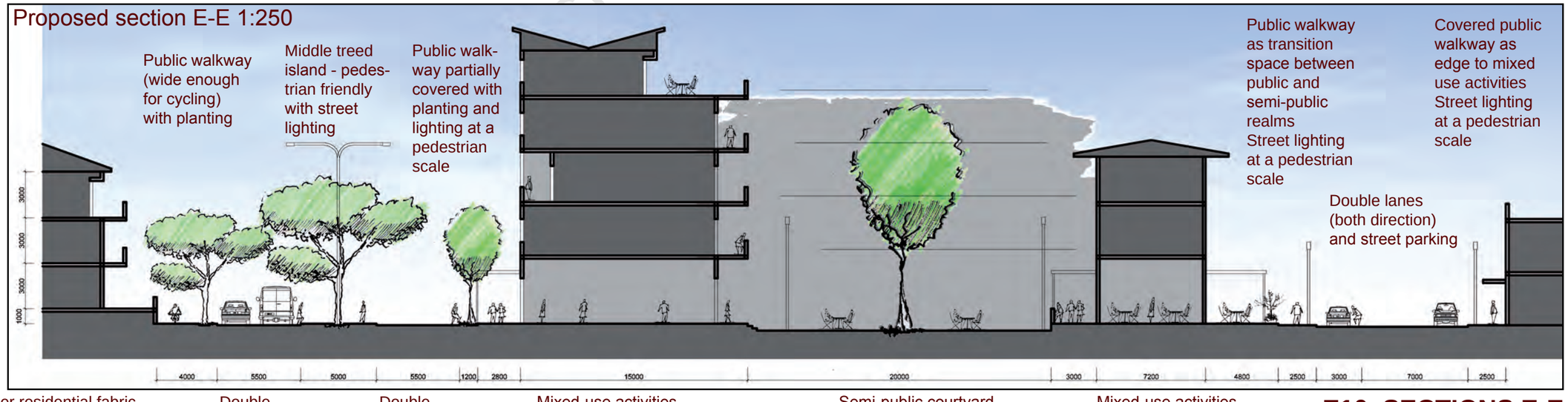


Figure 5.84 - View of anticipated vision from Main Road



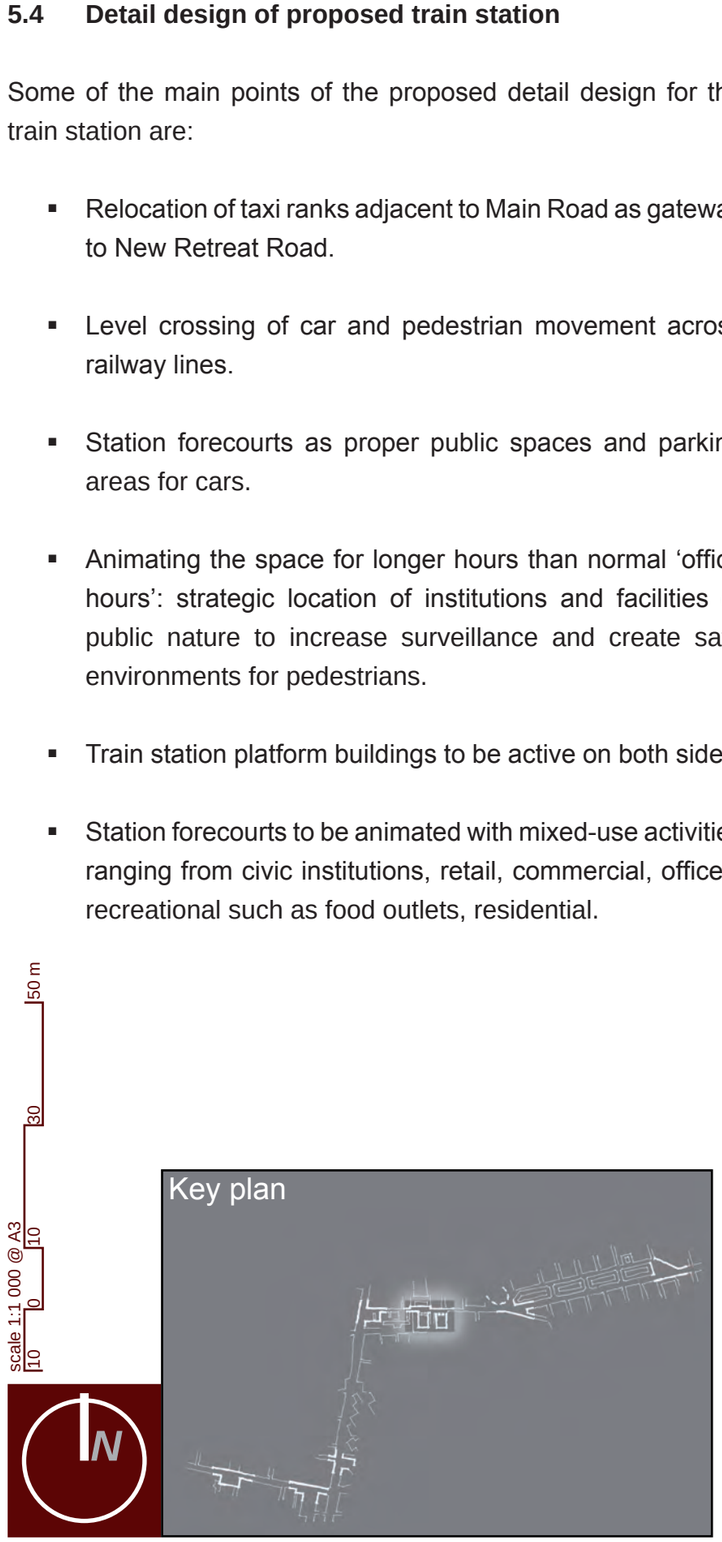
E10. SECTIONS E-E

Existing and anticipated vision
Realignment of Retreat Road

5.4 Detail design of proposed train station

Some of the main points of the proposed detail design for the train station are:

- Relocation of taxi ranks adjacent to Main Road as gateway to New Retreat Road.
- Level crossing of car and pedestrian movement across railway lines.
- Station forecourts as proper public spaces and parking areas for cars.
- Animating the space for longer hours than normal ‘office hours’: strategic location of institutions and facilities of public nature to increase surveillance and create safe environments for pedestrians.
- Train station platform buildings to be active on both sides.
- Station forecourts to be animated with mixed-use activities ranging from civic institutions, retail, commercial, offices, recreational such as food outlets, residential.



[Urban] anchoring of Retreat Road

local [urban] anchor

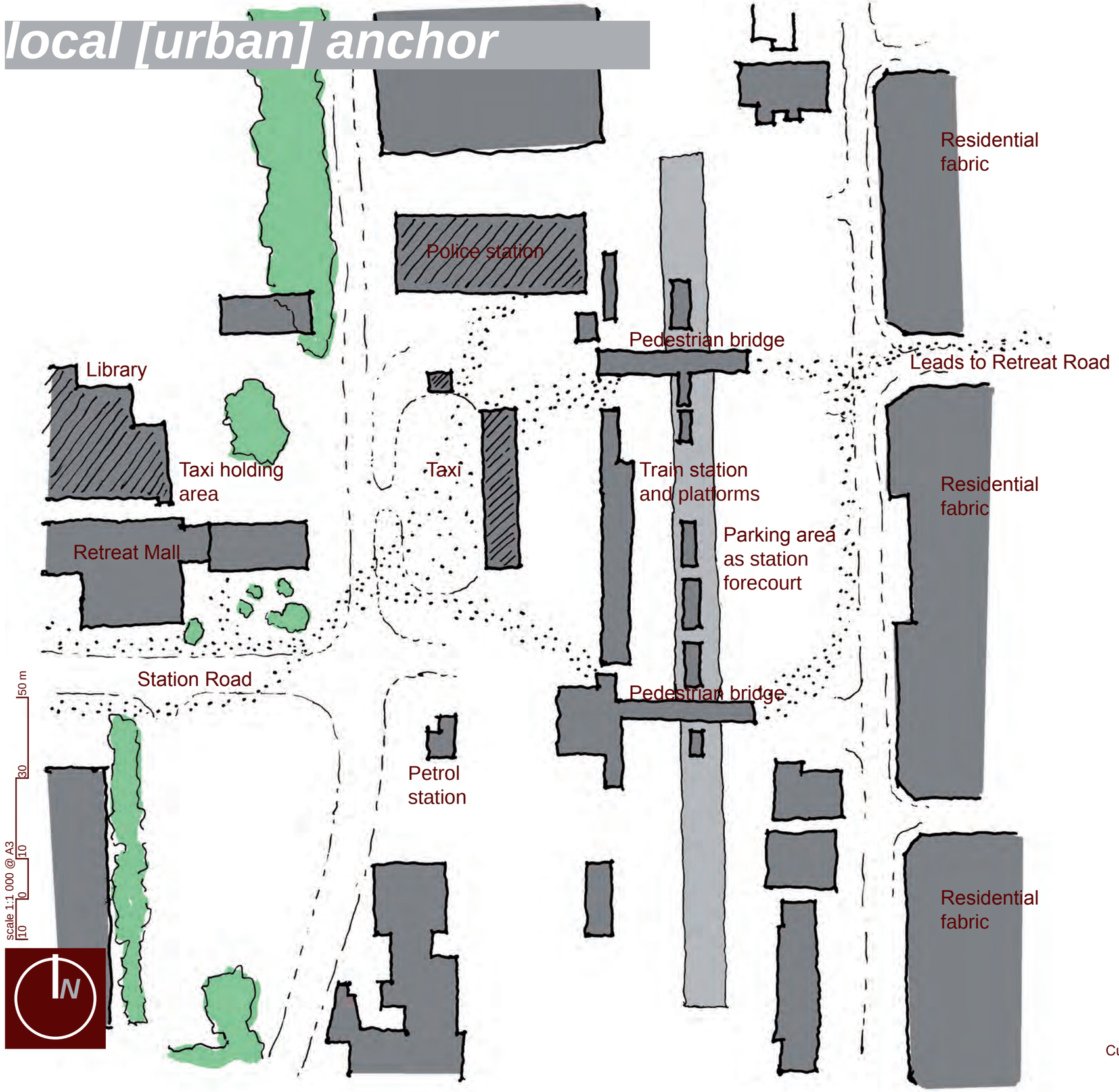


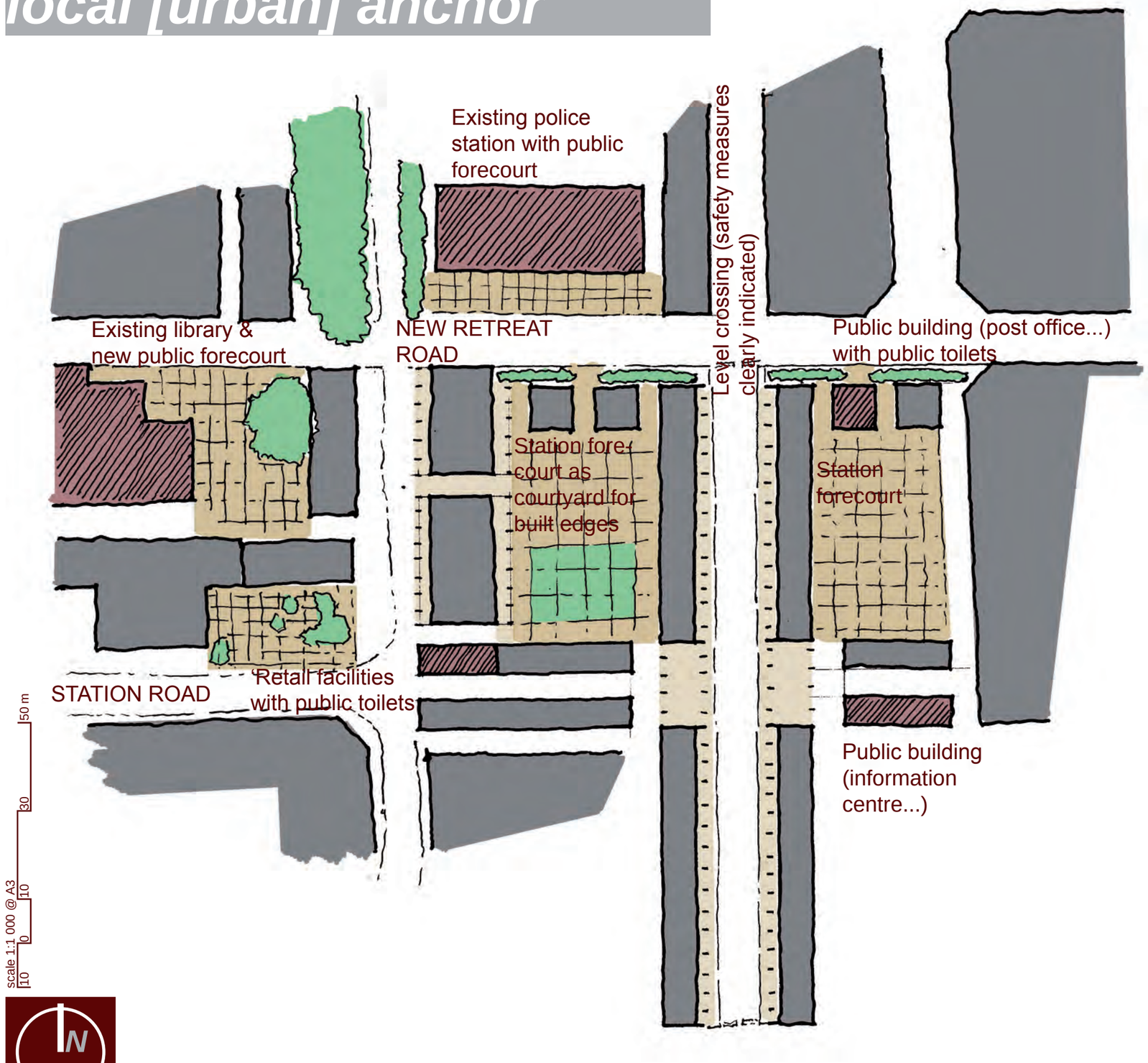
Figure 5.85 - Retreat train station and railway line as a physical barrier (Source: Author's collection 09/10/09)

Figure 5.86 - View of train station down Station Road (Source: Author's collection 29/08/09)

E11. EXISTING TRAIN STATION

Current situation with train station & current surrounding urban fabric

local [urban] anchor



E12. PROPOSED TRAIN STATION

Re-structuring of existing train station with potential new development around

local [urban] anchor

Figure 5.87 - BMW Lifestyle Pavilion (Source: Joubert, 2009: p 168)
Transparency of buildings through an urban window facing onto station squares (and other public spaces)

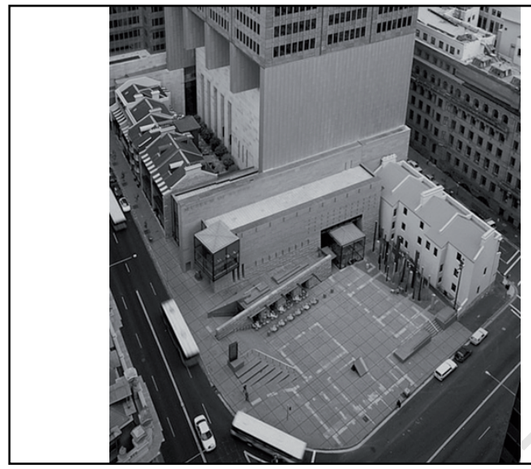
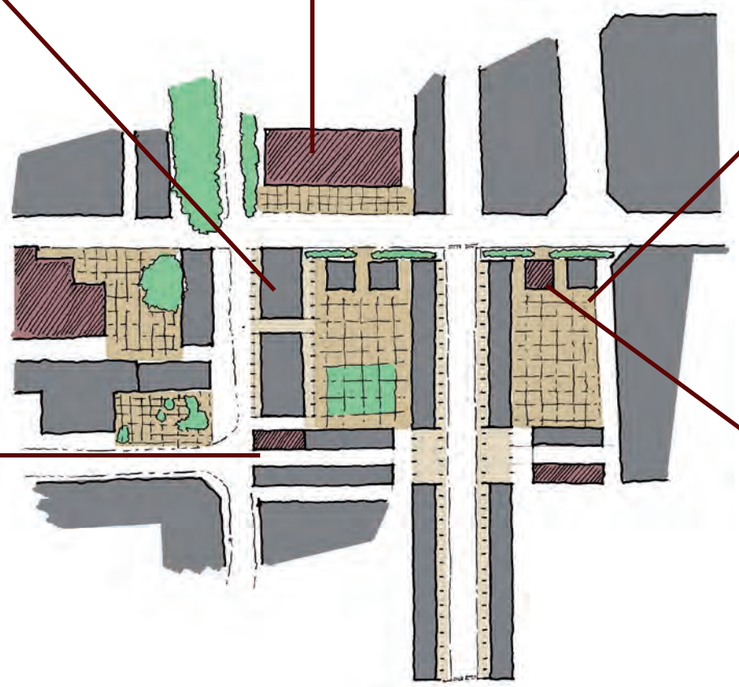


Figure 5.89 - Museum of Sydney (Source: Denton Corker Marshall)
Public forecourt as a threshold / zone of transition for a building of civic importance

Figure 5.90 - Mitchells Plain transport interchange (Source: Joubert, 2009: p 263)High quality public space for station forecourts and allowing informal trade

Figure 5.88 - Placa in Croatia (Source: Dr Leier, 2004: p 108)
Pedestrian axis leading into station with mixed-use activities on both sides



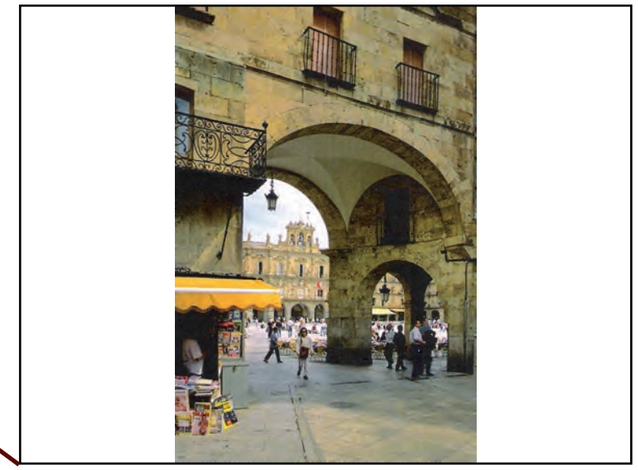
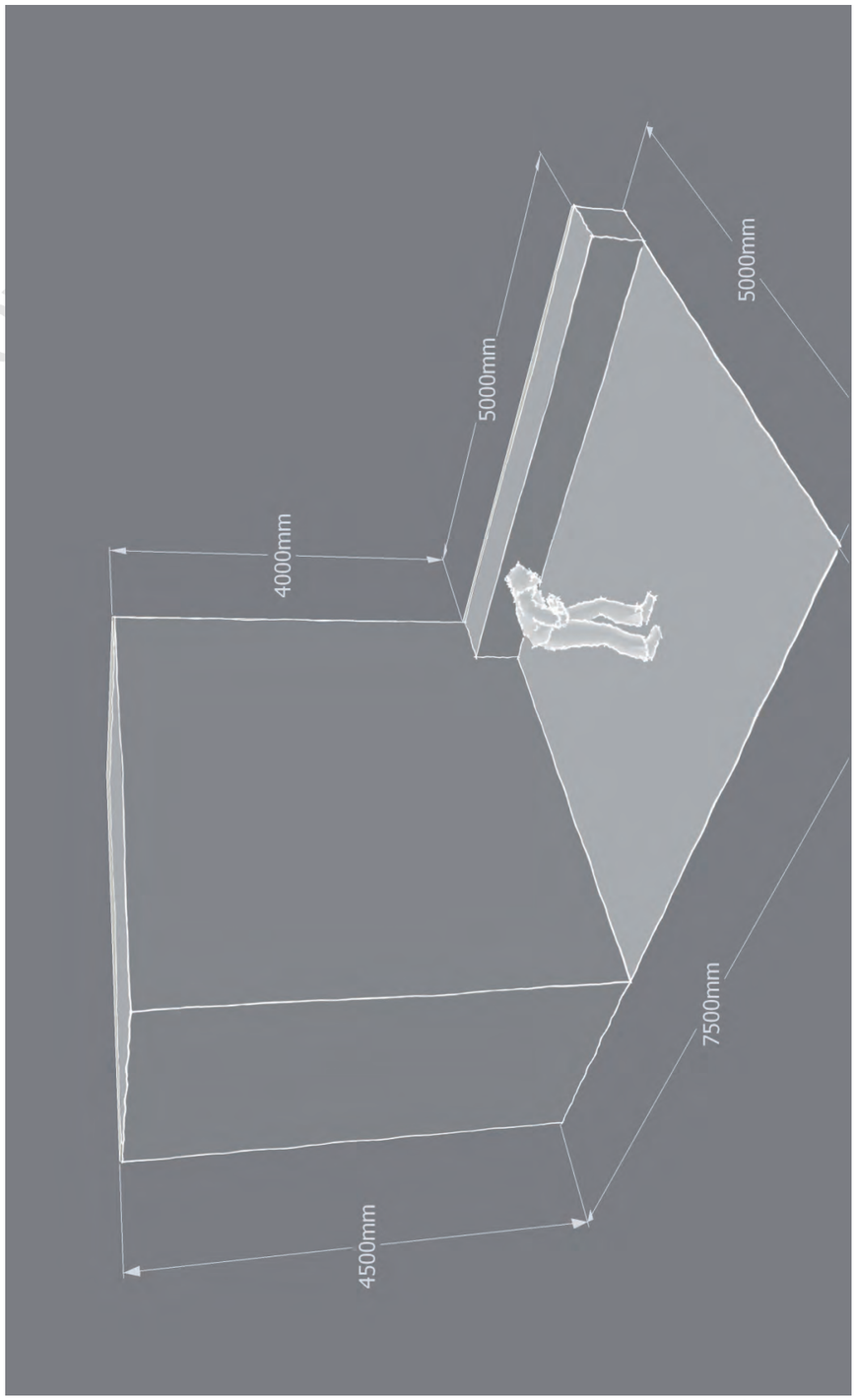


Figure 5.91 - Threshold through an arcade into Plaza Mayor in Salamanca in Spain (Source: Dr Leier, 2004: p 38)
Defined threshold into public spaces does not necessarily have to be pavilion type buildings as long as a free flow of movement is allowed

Chapter 6
Implementation of urban anchoring



[Urban] anchoring of Retreat Road

Chapter 6: Implementation of urban anchoring

6.1 Phasing through various cycles of ±3-5 years

Figure 6.01 - Existing current fabric

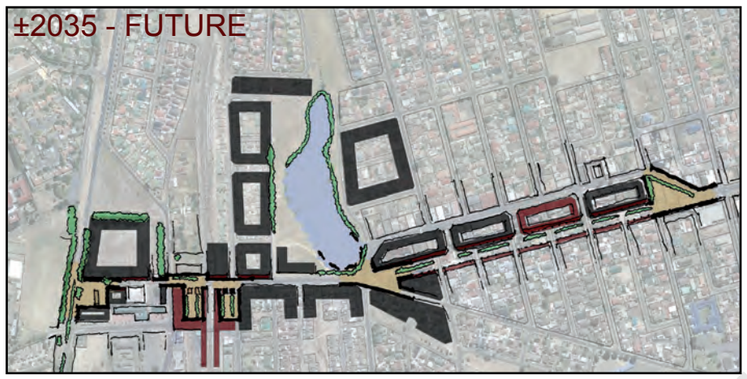


Figure 6.02 - Anticipated growth

Figure 6.03 - Phase 1: new taxi ranks as gateway on Main Road

Figure 6.04 - Phase 2: upgrading of existing train station

Figure 6.05 - Phase 3: new public square as an anchor for future development

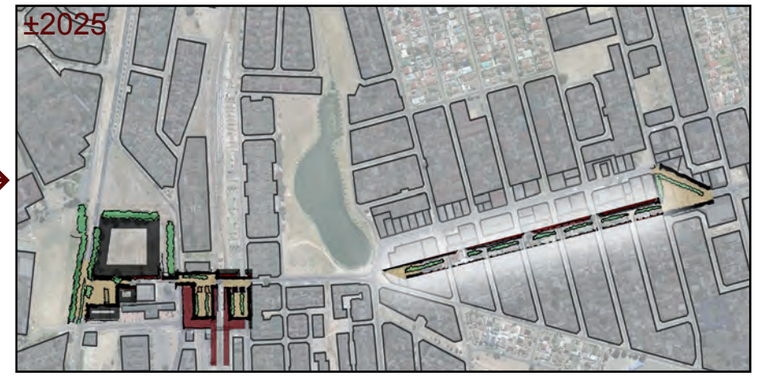


Figure 6.06 - Phase 4: realignment of road

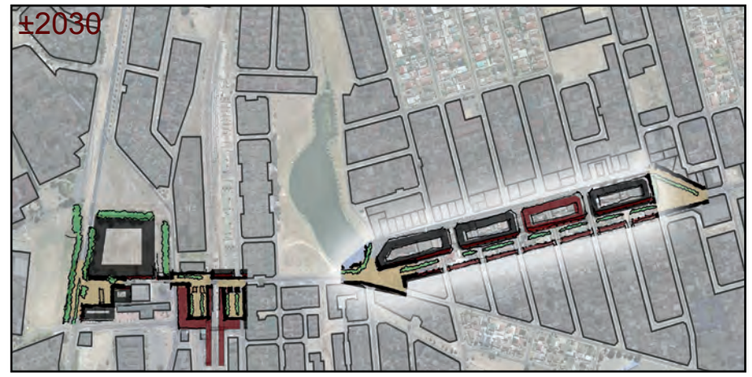
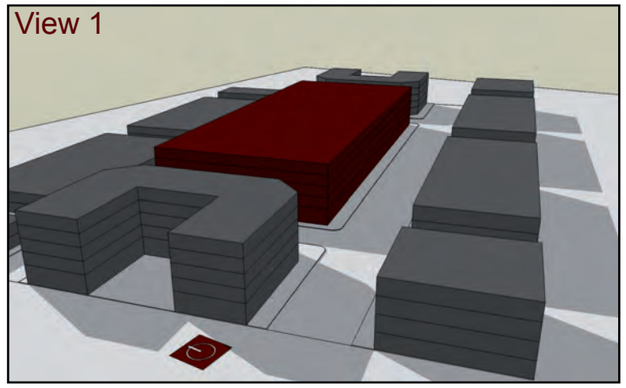
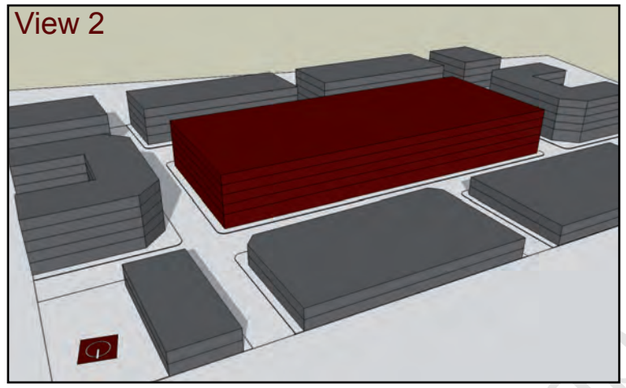


Figure 6.07 - Phase 5: New Retreat Road and Old Retreat Road

Figure 6.08 - Final phase: completion and management

design coding





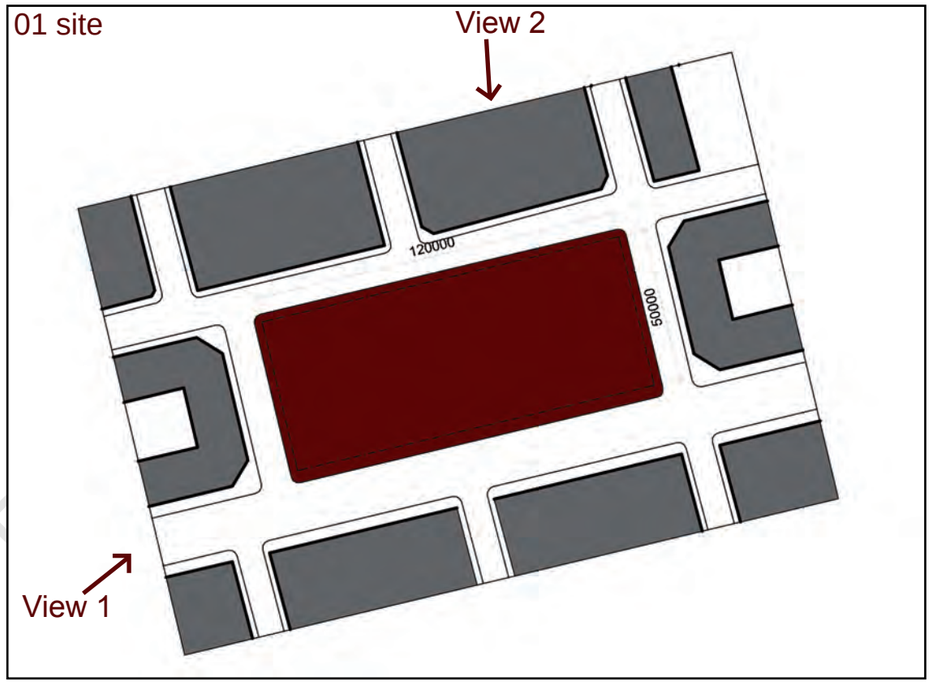


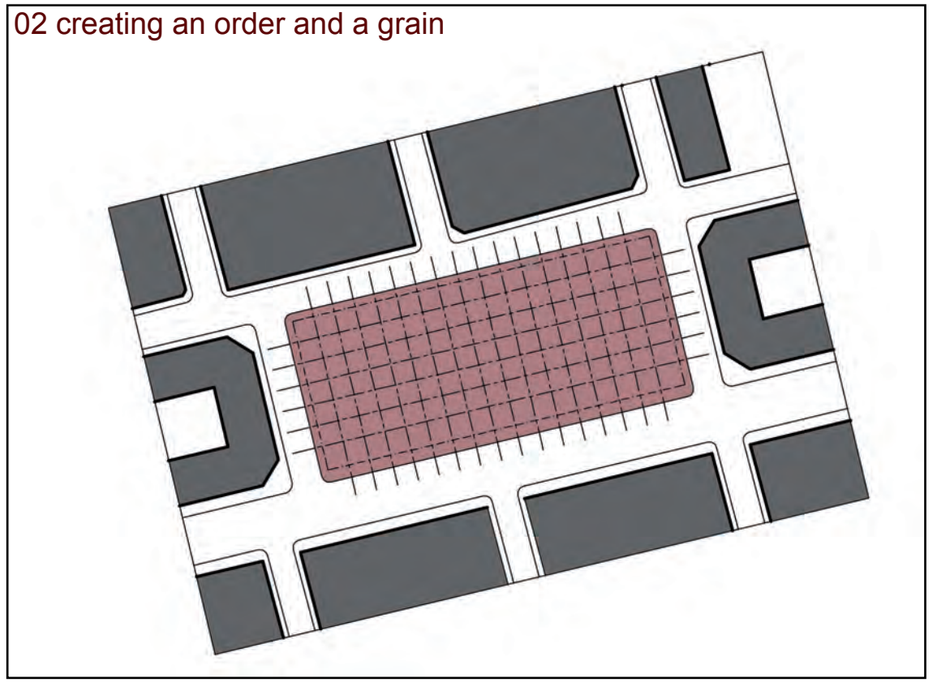
Figure 6.09 - Individual facades ±6-7m wide in Amsterdam (Source: Aarvin Jahajea's collection, August 2009)

- Grid of ±7m to create an order on site

- Advisable for each bay to possibly house a shop

- Each shop to have individual access from street: this helps in animating the facade

- Anchor tenants not to be allowed on perimeter of building to avoid them from monopolising the facade: no animation



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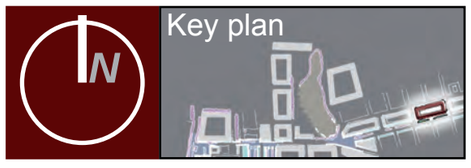
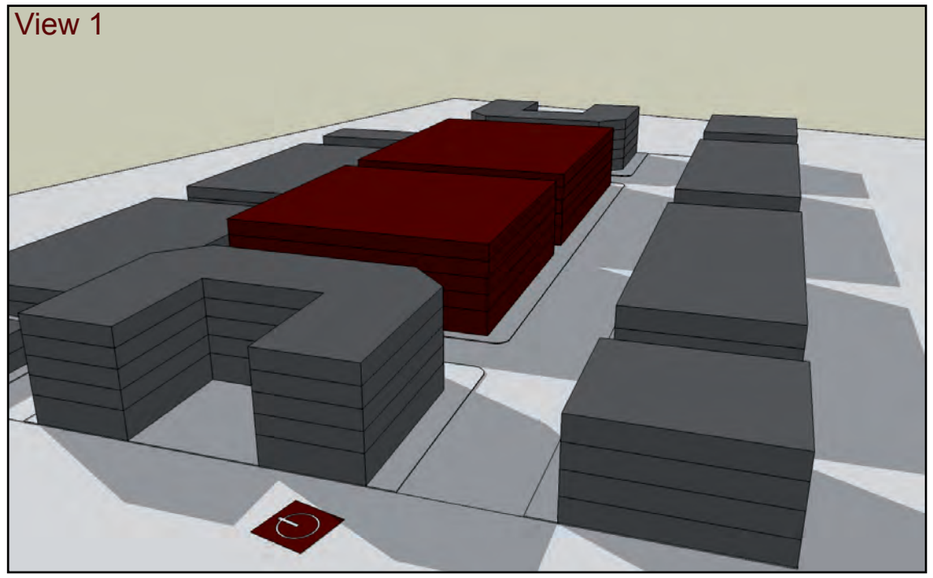


View 1

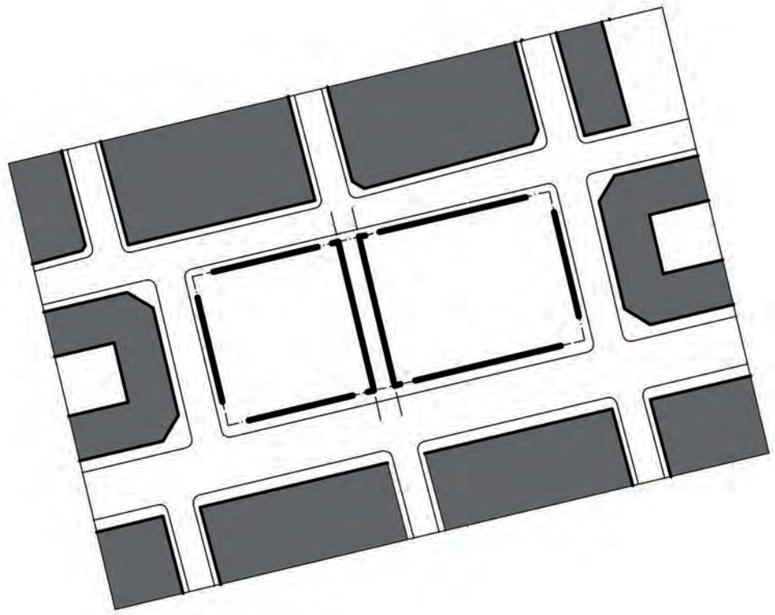


- All 4 sides to be considered as public edges

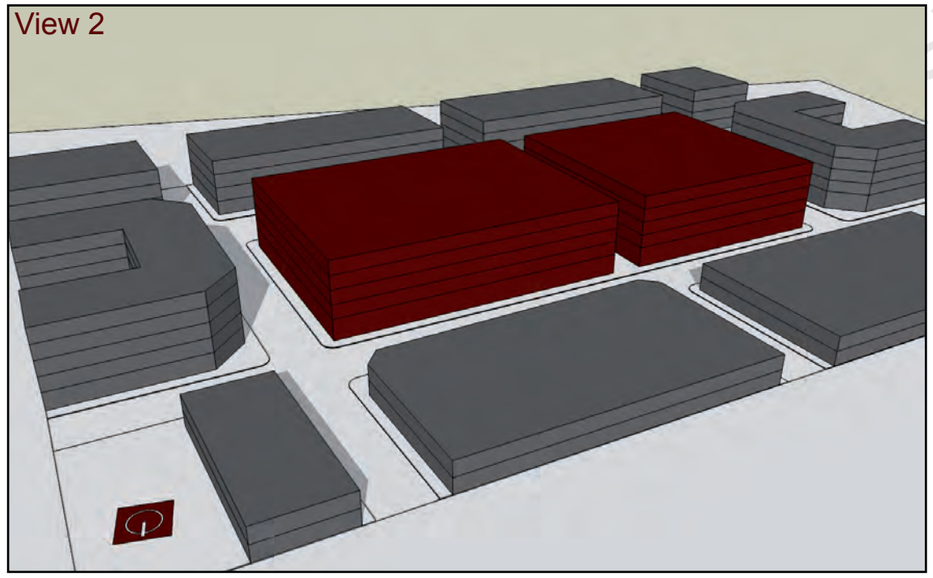
-Extension of opposite side streets onto site to create a pedestrian public axis

- Creation of 2 zones: right one (pale red) to be public in nature as closer to triangular public square (see overall plan for street realignment)

03 public edges



View 2



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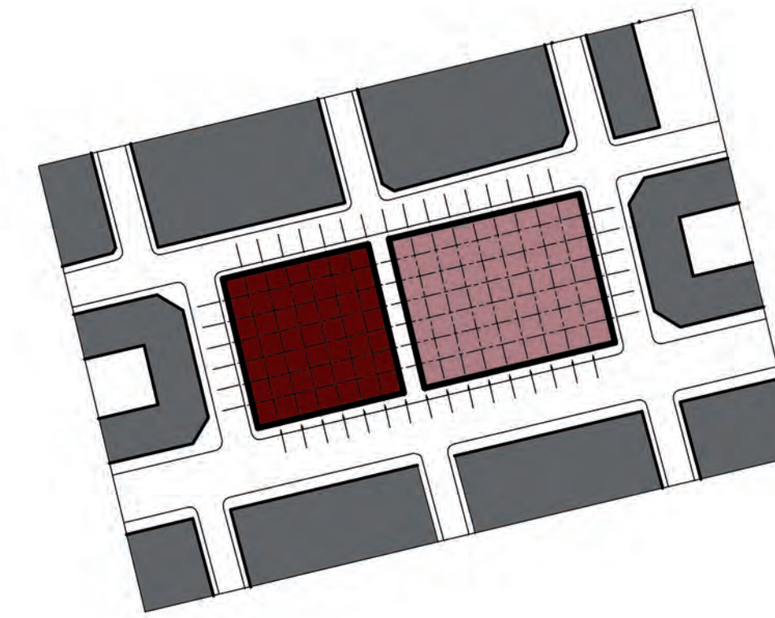
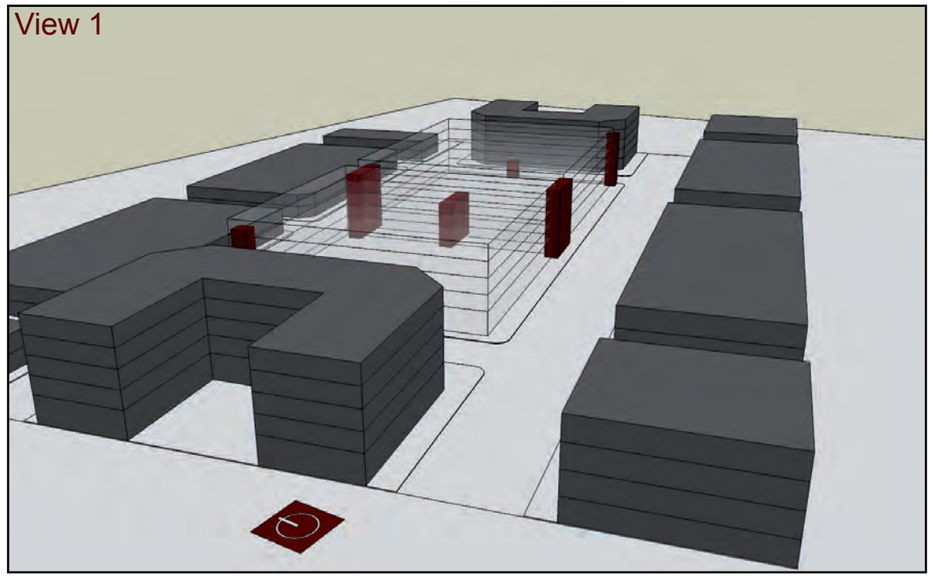
04 semi-public (left - dark red) & public (right) zones





- Individual access for each shop directly from the street: constant draining of the street, as Leon Krier calls it

- Main entrance points on pedestrian axis

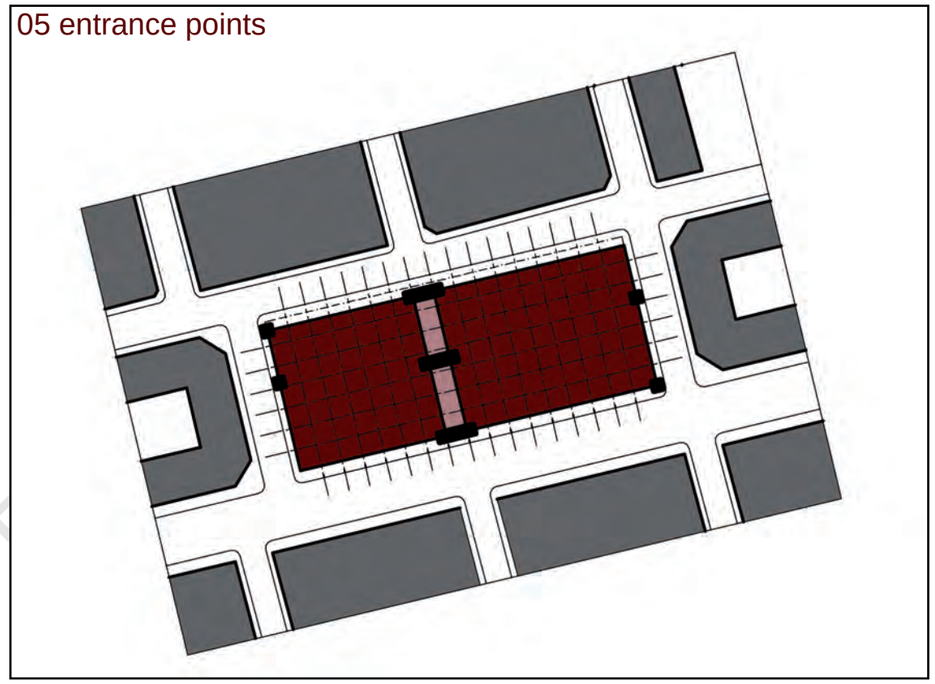
- Possible important entrance points on corners as indicated

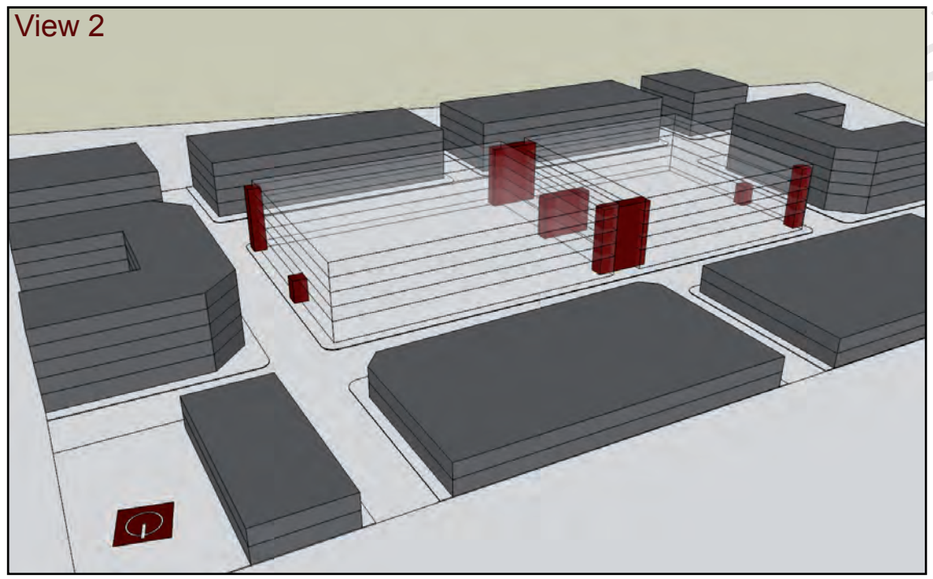
- Vehicular entrance to basement(s) from less busy side streets

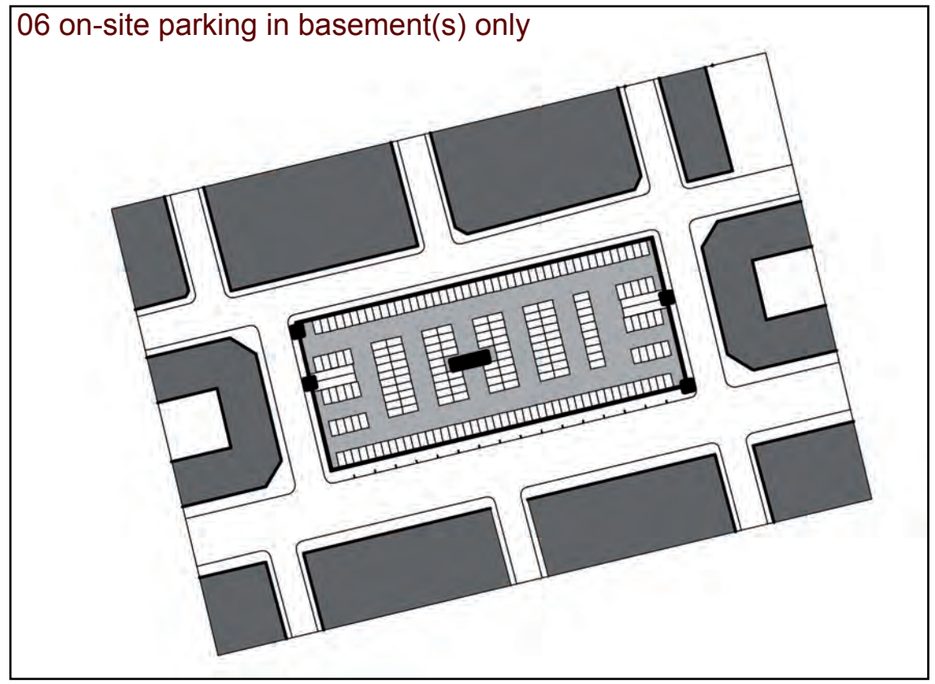
- On-site parking only in the form of basement(s)

- ±200 parking bays for basement (to be investigated properly)

- Street parking







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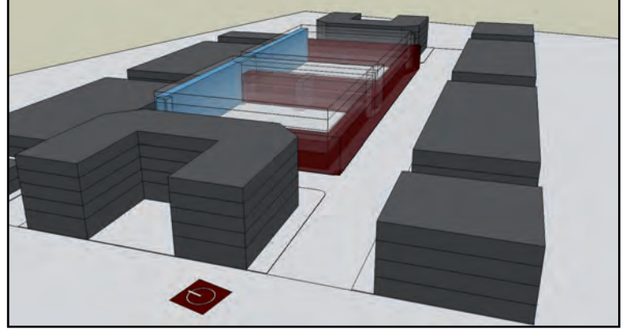


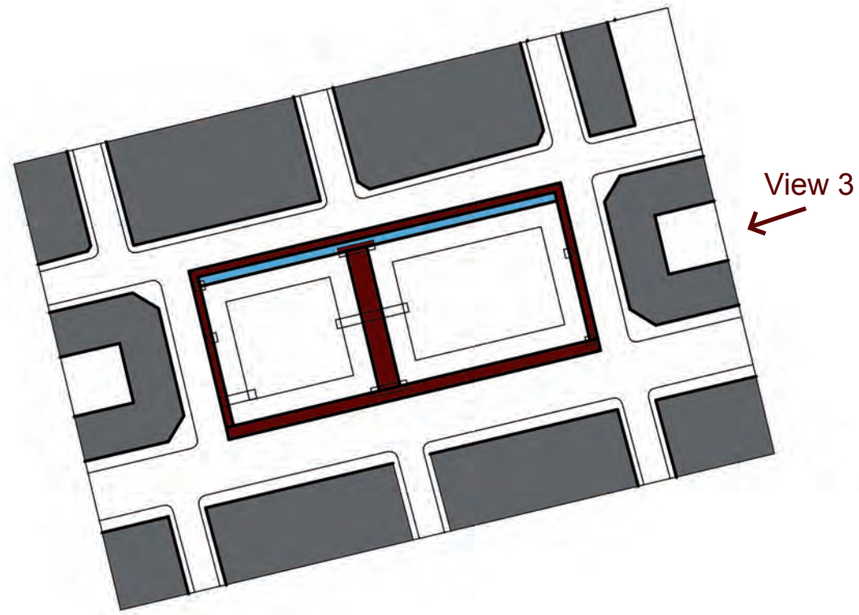
- Public edges (red) all around building

- Semi-public and semi-private edges (blue) as transition zones from public street to mixed-use activity: next to Old Retreat Road

- Solid building (semi-public in nature) v/s courtyard building (public in nature)

- Main entrance points from pedestrian axis

07 public edges (pale red) & semi-public / semi-privae edges



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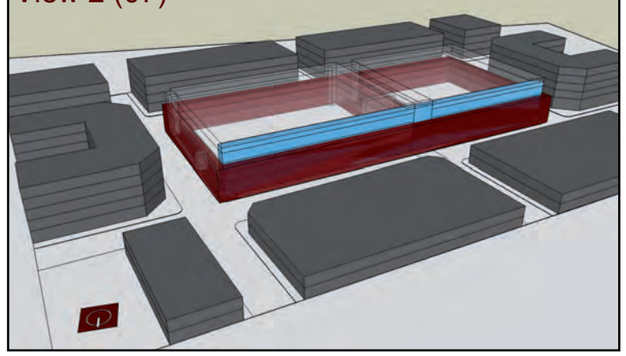

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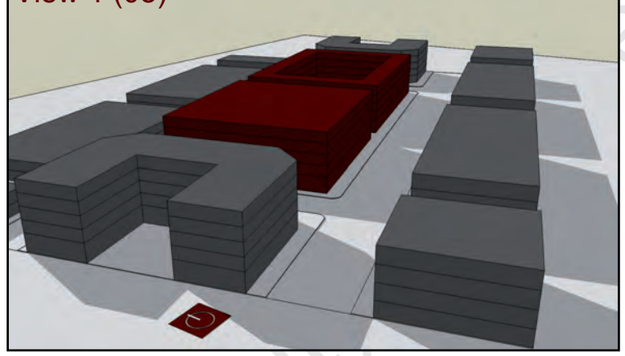
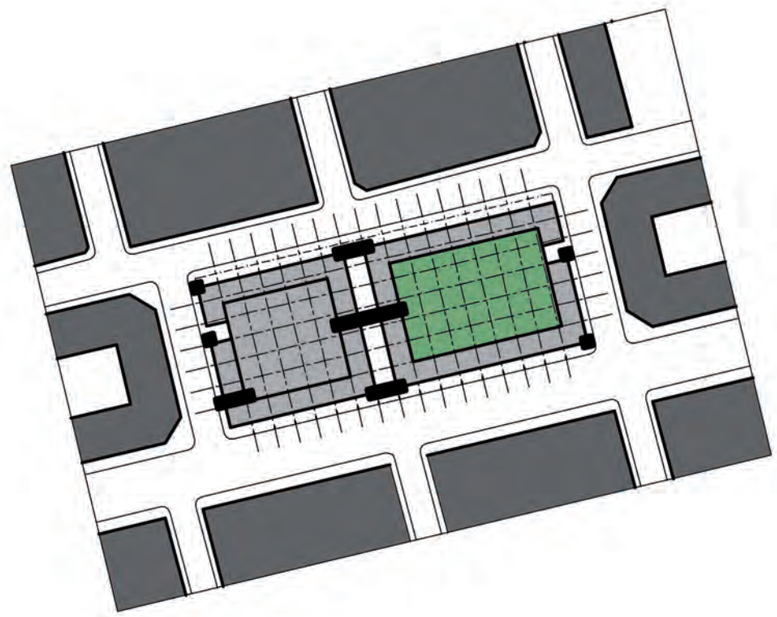


08 built footprint: solid v/s hollow



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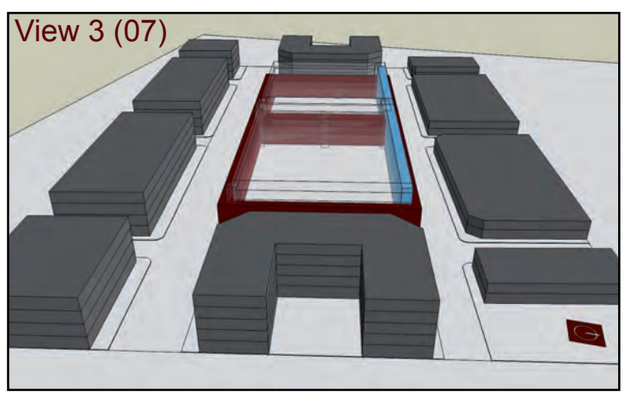

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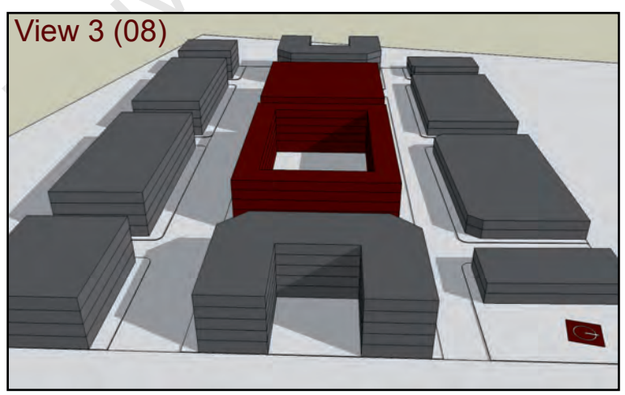

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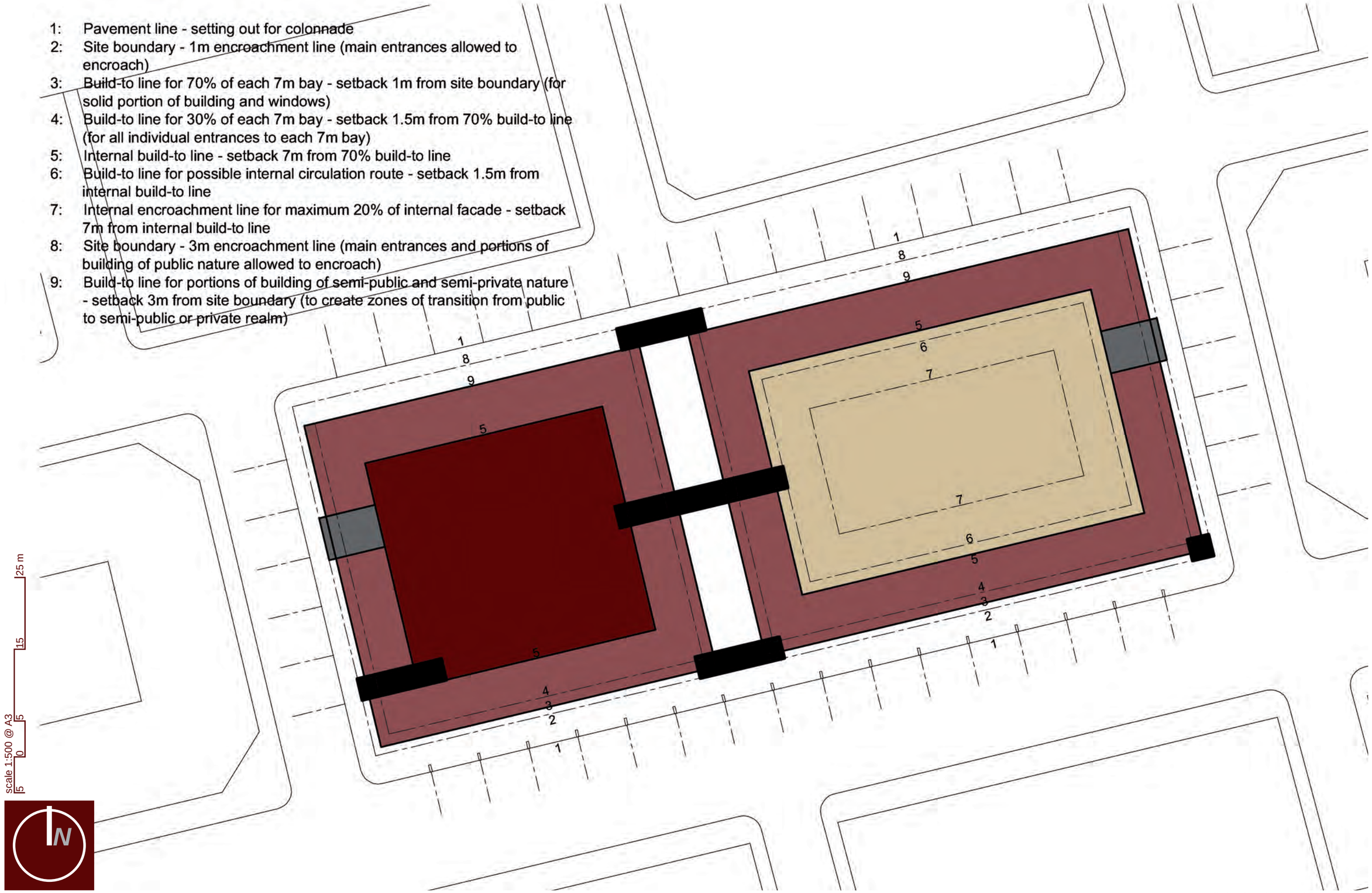
09 ground level coding

1: Pavement line - setting out for colonnade
2: Site boundary - 1m encroachment line (main entrances allowed to encroach)
3: Build-to line for 70% of each 7m bay - setback 1m from site boundary (for solid portion of building and windows)
4: Build-to line for 30% of each 7m bay - setback 1.5m from 70% build-to line (for all individual entrances to each 7m bay)
5: Internal build-to line - setback 7m from 70% build-to line
6: Build-to line for possible internal circulation route - setback 1.5m from internal build-to line
7: Internal encroachment line for maximum 20% of internal facade - setback 7m from internal build-to line
8: Site boundary - 3m encroachment line (main entrances and portions of building of public nature allowed to encroach)
9: Build-to line for portions of building of semi-public and semi-private nature - setback 3m from site boundary (to create zones of transition from public to semi-public or private realm)



[Urban] anchoring of Retreat Road

6.3 The nature of the 'plan': strategic planning instead of comprehensive planning

"*The motivations for embarking on a (strategic) spatial planning process vary but the objectives have typically been to articulate a more coherent and coordinated long-term spatial logic for land use regulation, for resource protection, for action-orientation, for a more open multi-level type of governance, for introducing sustainability and for investments in regeneration and infrastructure.*" (Albrechts, Nov 2006: p1490)

Plans have usually been drawn as an administrative framework to guide development where it is needed as opposed to being an action plan that aims at creating a vision and finding effective ways of implementing and managing the process (Albrechts, Nov 2006: p1488). They have acquired a reputation of usually being reactive to a certain context or set of conditions as opposed to being proactive and acting as a guideline for the implementation of a vision. This is one of the main characteristics of comprehensive planning where the zoning scheme acts as the administrative framework for guiding land use planning.

"*Strategic spatial planning is as much as about process, institutional design, and mobilisation as about the development of substantive theories.*" (Albrechts, 2006: p1152)

Unlike comprehensive planning which tries to find a solution for everything, strategic spatial planning chooses the main issues and problems. It looks for solutions to efficiently deal with these issues and problems according to the resource base available. Moreover, it puts forward a vision as opposed to the perfect end product – a flexible plan that can adapt to changes and the various forces at play in a city.

6.4 Influence of the urban designer

Henri Comrie (2003: p 7) sees urban design as an approach to urban development – an approach that cuts across the boundaries of various disciplines. Others see urban design as a profession in its own. Since urban design came into being in the era of post-modernism after the 1960s (Ellin, 1996: p 22), there has been a great deal of confusion regarding its definition and its purpose. This blurred origin and definition of urban design has never made it easy for the urban designer to exert his or her influence in the built environment. On an abstract level, McGlynn puts forward a powergram for urban design (Figure 6.10). This helps in understanding where the urban designer can expect to have some control or some degree of influence over the various areas in an urban fabric. It also takes into account the level of influence of other parties such as the land owner, developer, architect and users. The adjacent powergram is the author's personal attempt at trying to understand the areas in which the urban designer should have a minimum level of influence – however, it does not intend to show the intensity of influence of the urban designer or the other parties.

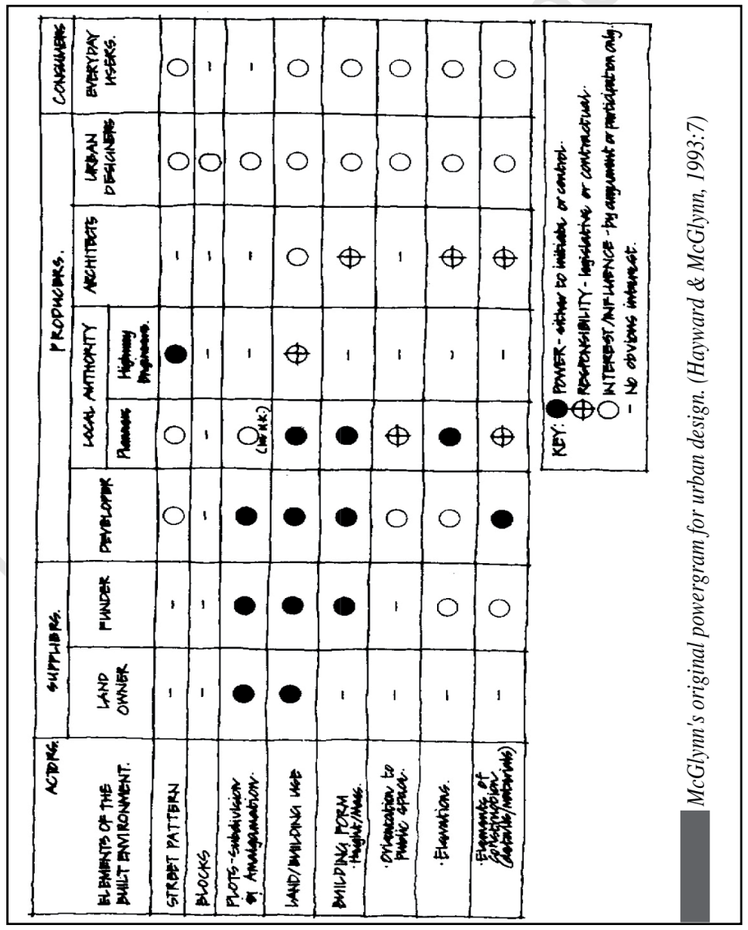


Figure 6.10 - Powergram for urban design by McGlynn (Source: Comrie, 2003: p 200)

INFLUENCE OF THE URBAN DESIGNER				
URBAN ELEMENTS	**TRADITIONALLY**	**IDEALLY**	**EFFICIENTLY**	**COMMENTS**
Land subdivision	D/ LO	P/ UD	UD	Traditionally market driven but should contribute to urban realm
Blocks	TE	P/ UD	UD	Blocks as a result of street pattern - block size determines grain of fabric
Street pattern	TE	U/ UD	UD	Blocks and street pattern are inter-dependent
Land use	P/ LO	UD	D	Traditionally dependent on zoning scheme - should be more innovative
Public realm	P	P/U/ UD	U/ UD	Spatial qualities of public spaces
Private realm	D/ LO	U/D/ LO	D/ LO	Dependent on LO, D and funders - market driven
Building form	D/A	UD	A/ UD	Spatial contribution
Formal activities	P/D/ TE	P/D/ LO	P/D/ U	Market driven - retail, offices, mixed-use...to generate profit
Informal activities	U	U/P/ UD	P/ UD	Informal trading - market dependent
Urban design coding:	[UD]	A/ UD	UD	Informing the architecture of a place
Height	A/D/ P	A/ UD	D/ UD	Traditionally, zoning scheme and achievable bulk - market driven
Orientation	A	A/ UD	A/ UD	Contribution to public realm
Responsive edges	A/D/ LO	A/ UD	A/ UD	Traditionally market driven but should contribute to public realm
Treatment of facades	A/D/ LO	A/ UD	A/ UD	Budget driven but can contribute to spatial qualities of public realm
Contribution to public realm	A/D/ LO/ P	A/ UD	UD	Positive contribution to public realm
Parking	A/D/ LO	A/D/ UD	UD	Avoid a building in a car park
Functions	D/A/ LO	A/D/ UD	D/ UD	At least for ground floor level

KEY:	
A	Architects (appointed by LO)
D	Developers (working for or with LO)
LA	Landscape architects (from local authority or LO)
LO	Land owners
P	Planners (generally from local authority)
U	Users (members of the public)
UD	Urban designers (local authority or LO - for public good)
TE	Traffic engineers (generally from local authority)

6.5 The post-design phase

Identification and participation of the appropriate stakeholders

An outcome of a project depends upon the successful completion of the design, implementation and management phases. Similarly, these are also highly dependent on the involvement of the various stakeholders at play. For instance, implementation processes and the political context within which these happen are very closely linked. Politicians are very important stakeholders. Should they buy into the idea of the plan, they will be very helpful in formulating strategies aimed at its implementation.

The presence of a 'champion' can play a crucial role in driving urban projects, whether it is a politician or somebody from the community. Such a champion can be very useful in the marketing and coordination of the various phases of a project and the numerous stakeholders involved in the process. Lack of public funding for initialising the implementation processes is a well-known cause for putting projects on hold. In that instance, a champion employed by the public sector could play a crucial role in sourcing out private funding and convincing various stakeholders from the private sector to get involved – a re-adapted version of capital designing. Thus, whether it is a government official or a community representative, a champion can be very pivotal in the regulating and policing of a framework destined for implementation.

Cross-disciplinary management

An integrated management plan that cuts across the boundaries of the various disciplines (for instance engineering, architecture, urban design, planning, municipal services, maintenance and management) has to be put in place for the efficient use of facilities being provided (Le Grange et al, 2004: p 76). The integrated management system should include stakeholders from departments such as garbage management and collection, water management, environmental management, built infrastructure management, safety and security, just to name a few. Failure to do so will only produce projects and facilities which have never been occupied and used, thus resulting in vandalism and a waste of resources. Such projects include the Heideveld train station and the Tsoga Environmental Centre which, even though completed, have never been occupied as per the original purposes.

Figure 6.11 - Area for traders at Heideveld station never used (Source: ARG Design)

Figure 6.12 - Tsoga Environmental Centre, initially meant to be public in nature, is now separated from the community as it is temporarily housing a computer centre (Source: ARG Design)

Figure 6.13 - Fencing between the building and the community square that was initially built to support the centre (Source: ARG Design)

Conclusion

!!!

Chapter 7: Conclusion

7.1 Concluding remarks

This dissertation has explored the urban anchoring of Retreat Road to serve the purpose of a transverse connector for the urban development corridor along Main Road. The nature of a corridor is such that it demonstrates a sequence of highs and lows in terms of intensity and energy – hence the appearance of urban cores along a corridor in the form of beads along a string. Transverse connectors that feed into these cores can be grouped into four main groups (refer to B6a, p 56) characterised by the following:

- a connector between the adjacent residential fabric and the corridor (Figure 4.21).
- the intersection of two or more activity spines (Figure 4.22).
- the intersection of a mobility spine (transverse connector) and an activity spine (urban development corridor) (Figure 4.23).
- the intersection of activity/mobility spines through the juxtaposition of an anchor in the form of a transport interchange (Figure 4.24).

This dissertation identifies Retreat Road as a possible transverse connector which starts from a transport interchange. In a typical post-apartheid South African context, mobility routes and even activity spines, up to a certain extent, act more as a means of fragmentation rather than integration. Hence in the case of Retreat Road, the application of a simple geometry, to facilitate the flow of energy and integration through a structured network of public spaces, has been put forward.

Finally, as per Nabeel Hamdi's (2004) explanation of the title of his book *Small Change*, big things start from a small change and it can be achieved without the typical expenditure of millions on projects and programmes. This embodies the nature of urban design: incremental, catalytic and ongoing. As an urban designer, one does not have control over everything but can at least influence some things in the right direction.

7.2 Possible recommendations

This section aims at providing some insight into how this dissertation can influence future research and investigation. Two such recommendations are being made as follows:

- Throughout this dissertation, the future proposal of a Bus Rapid Transit (BRT) along Main Road was never considered as the Southern Suburbs railway line is one of the few efficient railway lines in Cape Town. It will be a waste of resources by having two different systems trying to serve the same purpose. Hence, it is hereby being recommended that the future proposal of the BRT along Main Road be revisited.

- This dissertation considered the possibilities of using a train station, its railway line and its platform as an urban anchor as well as an urban integrator. It is hereby being recommended that the possibility of a small change like the removal of the railway fencing at specific points as well as clearly demarcated level crossings be investigated. This could be implemented at specific train stations along the Southern Suburbs railway line with the intention of spreading across the whole of the City of Cape Town.

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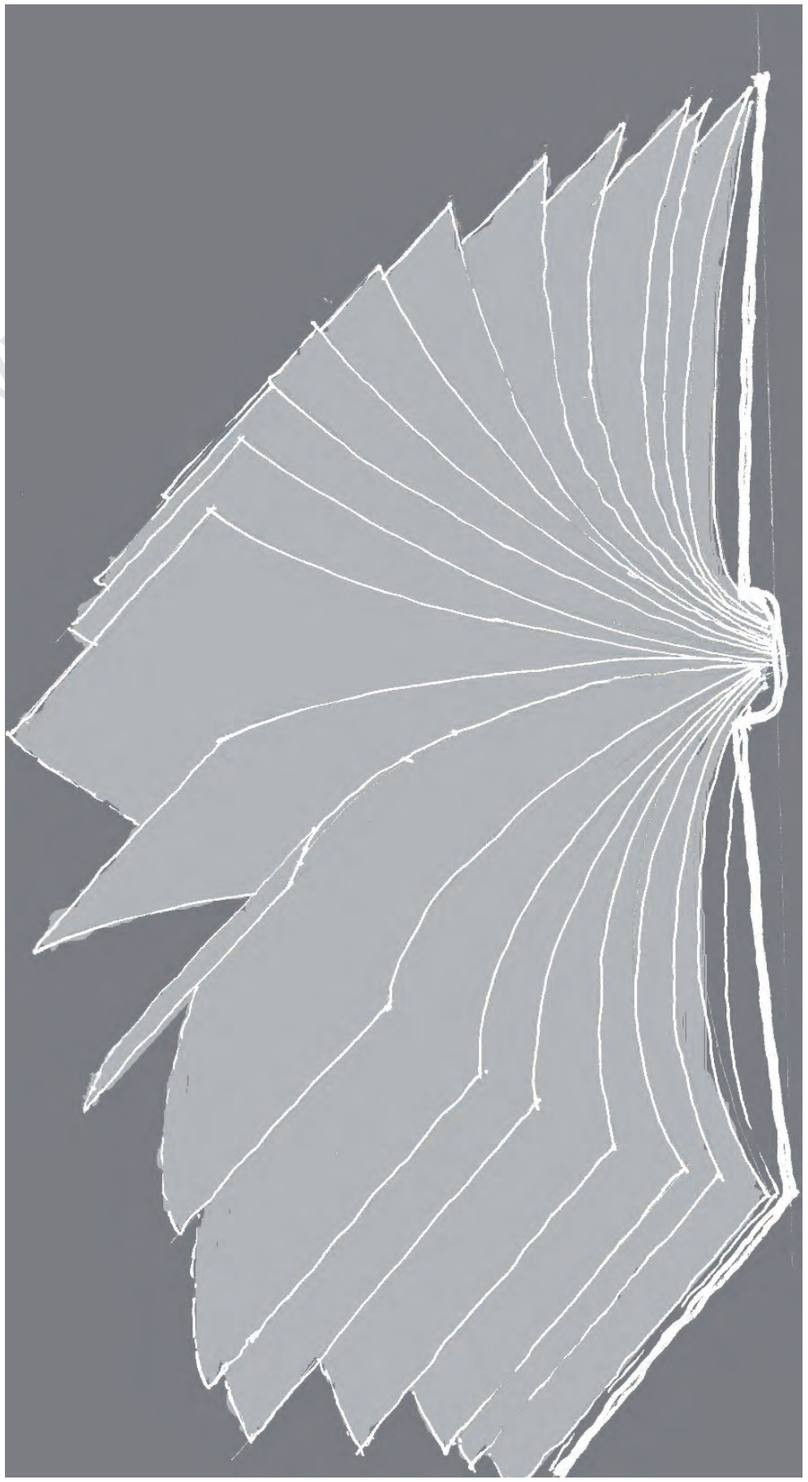

[Urban] anchoring of Retreat Road

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